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Building Code of Baltimore

**Being Ordinance No. 155 of the Mayor and City
Council of Baltimore, Approved
July 6, 1908**

PUBLISHED BY AUTHORITY

UNDER THE SUPERVISION OF

EDWARD D. PRESTON, INSPECTOR OF BUILDINGS

with a Comprehensive Index

PREPARED BY

CHARLES PIELERT, OF THE BALTIMORE BAR

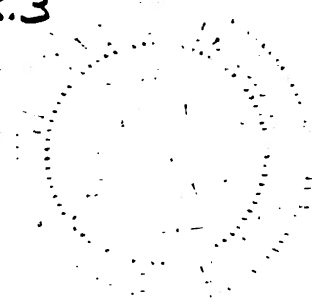
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OF BALTIMORE

BUILDING REGULATIONS.

An ordinance repealing and re-ordaining with amendments Article VII of the Baltimore City Code of 1893, title "Buildings."

SECTION 1. Be it ordained by the Mayor and City Council of Baltimore, That Article VII of the Baltimore City Code of 1893, title "Buildings," be and the same is hereby repealed *in toto*, and re-ordained with amendments, so as to read as follows:

ARTICLE VII.

BUILDINGS.

INTRODUCTION.

SECTION 2.

- 1 PAR. 1. The following provisions relating to the construction, alteration, repair and removal of buildings, together with any future changes therein, shall constitute and be known as the BUILDING CODE OF BALTIMORE, and may be cited as such. Title established.
- 2 PAR. 2. No wall, structure, building or part thereof shall hereafter be erected; no elevators, hoists, plumbing, gas-fitting, heating or electrical appliances in any building, structure or premises, shall be installed in All construction to conform to requirements of Code.
- 3 whole or in part; no excavation shall be made for a building or other structure or for any appurtenance thereto; no power shall be generated or operated, and no building shall be used except in conformity with the provisions of this Article.
- 4 PAR. 3. No building already erected or hereafter constructed shall be demolished, raised, moved, repaired, altered, built upon or added to in any manner in violation of the provisions of this Article. Same, as to alterations, repairs, etc.

Section 2, Par. 1—3.

Pending
construction.

PAR. 4. Buildings for which permits have been issued and work started before the date upon which this Article takes effect may be finished under the provisions of the laws hereby in this Article repealed.

5

Territory in
which Code
operates.

PAR. 5. These provisions shall apply to all construction within the corporate limits of the City of Baltimore, excepting United States Government and State property.

6

DUTIES OF INSPECTOR OF BUILDINGS.

SECTION 3.

To consider
applications,
plans, etc.

PAR. 1. The Inspector of Buildings shall receive applications, examine plans and grant permits for the erection, construction, alteration, repair and removal of buildings.

7

To make in-
spections.

PAR. 2. He shall inspect, or cause to be inspected, all works of construction, old walls and dangerous buildings, warehouses and buildings used for manufacturing purposes, theatres and other public buildings, tenements, apartment houses, lodging houses, hotels, vaults, cisterns and other excavations on public and private grounds, temporary or detached constructions and all elevators and fire-escapes, electrical construction and work, steam plants and all other work provided for hereinafter in the City of Baltimore in accordance with the provisions of this Article.

8

Scope of such
inspections.

PAR. 3. He shall determine the application and interpretation of this Article, and he shall also pass upon every question relating to the method of construction or the

9

To interpret
Code.

10

materials used in the erection, repair or alteration of any building or of any part of a building in the City of Baltimore.

- 11** PAR. 4. He shall make such rules and regulations as apply to the control of his office force, keep accounts and records and make reports, all as provided for by law or ordinance, or as may be required or called for by the Mayor or by the City Council of Baltimore. Office and administrative duties.
- 12** PAR. 5. The Inspector of Buildings is hereby authorized and directed to make such rules and regulations for work and materials in the various constructions under this ordinance, and not inconsistent therewith, as may be necessary to carry out the requirements for public safety. Power as to rules and regulations.
- 13** PAR. 6. In addition to the duties imposed upon him by Section 80 of the City Charter, he shall determine if any building or structure in which five or more persons are employed have proper means of exit, and if not, he shall notify the owners, trustees or lessees of said building and direct what changes or repairs shall be made. Exits of certain buildings of public assemblage.
- 14** If any owners, trustees or lessees shall fail to comply with such notice within thirty days of the date thereof they shall be liable to a penalty of \$100.00 for non-compliance therewith and \$25.00 per day for each and every day thereafter that such repairs or changes are not made. Penalty.
- 15** PAR. 7. He shall also determine if such buildings, as well as those mentioned in Sections 80 and 280 of the City Charter, Defects in same menacing health.

May order
repairs
made.

have any other defects or impairments which endanger the health or safety of their occupants or menace surrounding property; if so, he shall notify the owners, trustees or lessees what repairs or changes in his judgment shall be made, and if any owners, trustees or lessees shall fail to comply with such a notice within thirty days of the date thereof, they shall be liable to a penalty of \$100.00 for non-compliance therewith and \$25.00 per day for each and every day thereafter that such repairs or changes are not made. If the requirements of the Inspector of Buildings shall seem to be burdensome or unnecessary, the owners, trustees or lessees may appeal in the mode provided in Section 10 of this Article, but the Inspector of Buildings may by written permission extend such thirty days' time limit whenever in his judgment it is necessary for the proper completion of such repairs or changes.

16

Appeal from
such order.

17

Municipal
contracts;
inspection
clause.

PAR. 8. In the specifications of all contracts for the erection, alteration or repair of any municipal building there shall be inserted a stipulation that the work to be done thereunder shall be subject to the supervision and approval of the Inspector of Buildings.

18

ORGANIZATION OF OFFICE

SECTION 4.

Personnel
of office.
force.

PAR. 1. The organization of the office of the Inspector of Buildings shall consist of an Assistant Inspector, a secretary and such examiners, inspectors, clerks, attendants and laborers as are provided for from year to year in the Ordinance of Estimates.

19

Section 3. Par. 7. 8.

- 20** All inspectors shall be proficient and have had at least five years practice in the particular line of work they shall be called upon to pass.

Inspectors;
qualifica-
tions.

APPLICATION FOR PERMITS.

SECTION 5.

- 21** PAR. 1. An application shall be made to the Inspector of Buildings for a permit before the erection of a building or construction of any kind is undertaken; before any cutting of any wall or any part of a structure for plumbing work, except as provided for by Section 48 of this ordinance; before
- 22** any electrical work, elevator construction or the erection of any fire-escape, shed, platform or any temporary or detached structure is begun; before any areaway, vault,
- 23** cistern or other excavation is made on any avenue, street, alley or other public or private ground, or any shop window, bay window, oriel window, steps, portico, column, pier, awning or any other structural or ornamental projection, the construction or erection of which shall be authorized by law or ordinance, shall be made to extend over or upon any such public or private ground;
- 24** before any building is moved; before any roof is used for purpose of observation or entertainment for more than ten (10) persons;
- 25** before any steam power boiler or engine, gas or gasoline engine, electric dynamo or motor of five horsepower or over, or any other power generator, or any machinery operated thereby is installed, or before any alterations or repairs of any kind whatever shall be made.

Required for
building con-
struction.

—plumbing work.

—cutting walls.

—electrical work.

—elevator con-
struction, etc..

—areaways, etc.

—other excava-
tions.

—shop, bay,
bow or
oriel
windows,
etc.

—moving of
build-
ings.

—power ma-
chinery,
or al-
terations
or re-
pairs.

| | | |
|----------------------------------|--|----|
| Person to make application. | PAR. 2. The application shall be made by the owner, architect or an authorized agent of the owner. | 26 |
| How made. | The application shall be made on blanks furnished by the Inspector of Buildings in duplicate, and shall be accompanied by copies of the plans of the work proposed; such plans shall be properly drawn to scale with the usual construction data thereon, including character of foundations, etc. Prints, copies or tracings of all plans filed for application shall be made on cloth and shall be deposited with the department as permanent matter of record. Complete copies of specifications shall also be filed with the Inspector of Buildings. | 27 |
| Plans required. | | 28 |
| Prints and tracings. | | 29 |
| Additional data, etc. | PAR. 3. If required by the Inspector of Buildings, additional drawings and information shall be furnished after such plans have been examined, and no signs, lines, words, figures or coloring shall be erased, changed or added to any such plans or to any accompanying statements or specifications thereafter, except as hereinafter provided. | 30 |
| Dimensions required to be given. | PAR. 4. All important dimensions shall be figured, and plans for tenements, apartment houses, lodging houses and hotels shall include a plan for each floor with the sizes of all courts, shafts, windows, stairs, hallways and other rooms figured in detail. | 31 |
| Contents of blanks. | PAR. 5. The blanks shall cover all details not likely to be covered by the drawings, as the Inspector of Buildings may determine. They shall be filled out in ink, giving the full name and business address and the resi- | 32 |

idence, with the street and number of the owner of the proposed structure.

- 33** PAR. 6. If the application is not made by the owner, it shall also state the authority of the person making the application and his business address and residence. When not made by owner.
- 34** PAR. 7. Every application for a permit for the construction of a new building shall state the proposed use of the building. Use of building to be stated.
- 35** PAR. 8. Every application for a permit for the construction of a new building shall state whether an old building will have to be demolished or not, and what the character of the supporting soil is supposed to be. Demolishing old building.
- 36** If the application is for electrical work, in whole or in part, the name of the electrician who will do the work, if known, shall be given; if not known, the name shall be added at a later date. Electrician to be named.
- 37** PAR. 9. Every application for a permit for the making of an areaway, vault, cistern or other excavation allowable by law or ordinance on an avenue, street, alley or any other public property or for the construction of a show window, bay window, oriel window, steps, portico, column, pier, awning, or any other extension to or from a building, upon or over any such public property, or for the erection of any shed, platform, retaining wall, fence, sign, or for any temporary or detached object or construction upon any such public ground shall be made separately on blanks furnished by the Inspector of Buildings. Construction upon, over, or under public ground; requirements.
- 38** Every such application shall be accompanied by plans and Plans to be furnished.

| | | |
|-------------------------------------|--|----|
| Board of Estimates to pass on same. | statements fully setting forth the character of the excavation, construction or erection, its proposed use and the amount which the applicant is willing to pay therefor. Every such application, with its accompanying plans and statements, with a report of the examination thereof made in the office of the Inspector of Buildings shall be filed before the Board of Estimates for their approval. | 39 |
| Power permits. | PAR. 10. Every application for a power permit shall describe the premises intended to be served and the character of the power and the machinery to be used. In case the application is for the use of electric power that will plainly in the judgment of the Inspector of Buildings not be or cause a nuisance to adjoining property owners, permits may be issued subject to such conditions as may be imposed under the provisions of the next succeeding section relating to such permits. In all other cases a notice of such application, naming a day and hour previous to which protests may be made in the office of the Inspector of Buildings, shall be inserted in one daily paper not less than three times by the Inspector of Buildings within the period of one week after the date of such application. Every such application shall be accompanied by a sum sufficient to pay the cost of such notice. Should no written protests or complaints be received, the Inspector of Buildings, after being satisfied that all conditions are favorable, shall issue a permit therefor, subject to such conditions as may be imposed under the provisions of the next succeeding section | 40 |
| Discretion of Inspector. | | 41 |
| Advertisement of applications. | | 42 |
| Costs thereof. | | 43 |
| Issue of permit. | | 44 |

- 45** relating to such permits. Should any written protest be filed, the Inspector of Buildings shall investigate the same, and if in his opinion the objections are not well taken, he may in the exercise of his discretion grant the permit for the same, notwithstanding the protest may have been filed to the granting of the same. Such permits shall be signed by the Inspector of Buildings himself and shall not be issued without having the Mayor's approval indorsed upon them, whether protests have been filed or not.
- 46**
- 47** PAR. 11. If the said application describes the power of the proposed boiler as being of sufficient capacity to run an engine, dynamo or other machinery of more than twenty (20) horsepower, there shall be attached to said application, in addition to the matters above set forth, the following affidavit sworn to by the person, persons or corporation who are to own, lease or control the said machinery before a Justice of the Peace of the State of Maryland, in and for Baltimore city or before a Notary Public: "I hereby make oath that during the time when the machinery described in the above application is in use it shall be always in the actual charge of a competent engineman." This affidavit shall not be required for electric motors.
- 48**
- 49**
- 50** PAR. 12. All plans, specifications and statements shall be construed together; but in case difference between them shall be found, the statements sworn to, subject to such conditions as may be imposed by the Inspector of Buildings, shall govern.

Written protests.

Requisites of power permits.

Affidavit, when required.

Form of.

Exception.

Interpretation and construction of plans.

Groups of
buildings.

PAR. 13. One application and one set of plans may be used for several separate buildings, provided they are exactly alike and adjoin each other under similar conditions.

51

Applications
always re-
quired.

Applications shall be made in all cases of constructive work and in all cases where permits are required, no matter how small the work to be done.

52

Approval of
applica-
tions.

PAR. 14. It shall be the duty of the Inspector of Buildings to examine and approve or reject every application within a reasonable time. If the application is rejected, the person making it shall be promptly notified of the fact with the reasons for the rejection after which he shall have an opportunity to so amend the plans and specifications as to remove the objections.

53

PERMITS.

SECTION 6.

When re-
quired.

PAR. 1. No building shall be constructed, added to or altered or repaired in any way, and no work relating thereto shall be performed after the passage of this Article without a general permit therefor signed by the Inspector of Buildings.

54

None given
without ap-
plication.

PAR. 2. No such permit shall be given until application has been made as provided in Section 5 of this Article, nor until the plans and specifications accompanying such application shall have been examined and found to conform to the requirements of this Article.

55

Section 5, Par. 13, 14.

56

PAR. 3. A permit, however, may be given for the construction of a part of a building, or a part of an extension or an alteration where the application has been made as required in Section 5 of this Article, provided the plans and specifications relating thereto fully and satisfactorily cover the part of the construction for which such a partial permit is desired, and provided such a partial permit is in the judgment of the Inspector of Buildings necessary for the prompt execution of the work or otherwise desirable. In

Parts of buildings; preliminary permits.

57

any such case the general permit shall be given subsequently and the construction in question shall not proceed beyond the limits of the partial permit until a general permit is given.

Limits of work under.

58

PAR. 4. No permit shall be given for a new building, nor shall any permit be given for an addition to any building involving a proposed cost of over one hundred dollars, nor shall a permit be given for any alteration, involving a proposed cost of five hundred dollars or more until a license therefor from the Appeal Tax Court, as provided by Section 11 of this Article, shall be presented and recorded in a book kept for that purpose in the office of the Inspector of Buildings.

License from Appeal Tax Court; when required.

59

PAR. 5. No permit shall be given until all fees and taxes provided for by law or ordinance have been paid.

Fees and taxes must be paid.

60

PAR. 6. No general permit shall include the construction of a vault, cistern, areaway, or the making of any other excavation or improvement upon any avenue, street, alley,

Special permits; when required.

or other public or private property, or the extension of any show window, bay window, oriel window, steps, portico, column, pier, awning or other ornamental or structural projection over or upon such property.

Special permit
required—
for power.

PAR. 7. No such permit shall include facilities for the generation or the use of power.

61

No permit un-
less author-
ized by law.

PAR. 8. No such permit shall be given for any building or for the alteration or repair of any building upon any public or private property unless the construction, alteration or repair of such building shall be duly authorized by law or ordinance.

62

Restricted
buildings and
construction.

PAR. 9. No such permit shall be given for any building covered by the provisions of Section 47, Paragraph 8, of this Article unless the construction, alteration or repair of the same be authorized as therein provided.

63

Same.

PAR. 10. No such permit shall be given for any of the buildings named in Section 47, Par. 12, of this Article unless such building shall conform to the requirements thereof and its construction or erection be approved as therein provided.

64

Protested
permits; re-
quirements.

PAR. 11. No permit shall be given for any building to which objection has been filed as hereinafter provided unless such objection shall have been passed upon and the application approved by the Inspector of Buildings and the issuance of such permit is authorized by law or ordinance.

65

- 66** PAR. 12. A record shall be kept in a book in the office of the Inspector of Buildings of all general permits for new buildings, and in a separate book of all such permits for alterations, additions and repairs. Record of permits; separate records.
- 67** PAR. 13. General permits shall state whether any electric lighting is included or not. If it is included, the name of the contractor as given in the application shall be stated. If it is not included, a special electric lighting permit shall be subsequently required; but no permit shall be given for electric lighting except the name of the contractor is stated therein. Every permit for electric lighting shall likewise be recorded in a separate book. Electric lighting; information required.
- 68** Rules relating to.
- 69** PAR. 14. No permit shall be given for the alteration or repair of a building which in any way changes the grade of its occupancy unless the building as altered or repaired shall fully comply with the requirements of this Article for its changed grade of occupancy. Grade changes.
- 70** PAR. 15. No electrical work shall be done, no electrical wires shall be placed and no electrical apparatus of any kind shall be installed in any building or structure except central and sub-stations of incorporated electric companies within the corporate limits of the city, or over or upon any avenue, street, alley or other public property within said limits without a permit signed by the Inspector of Buildings. Electrical work, wiring, and apparatus.

Vaults and other excavations.

PAR. 16. No vault, cistern, areaway or other excavation, authorized by law or ordinance, upon any avenue, street, alley, or other public property shall be made without a separate permit signed by the Inspector of Buildings; no show window, bay window, oriel window, and no steps, portico, column, pier, awning or other ornamental or structural projections authorized by law or ordinance below a height of 10 feet above the sidewalk or pavement shall extend over or upon any such public property without a separate permit signed by the Inspector of Buildings, and no shed, platform, sign, temporary structure or detached construction or object of any kind shall be erected on any such public property without a separate street permit signed by the Inspector of Buildings.

71

Show, bay, and other windows, etc.

72

Separate permits required.

73

Vault extension or street permits;

PAR. 17. No such vault, extension or street permit shall be given unless the right to so use the avenue, street, alley or other public property has been granted by the Board of Estimates, and unless the payment of the money required therefor has been made and all other terms and conditions required by said Board shall have been complied with, except as provided for in Section 53 of this Article.

74

Board of Estimates to grant.

75

Old walls.
Party walls.

PAR. 18. No permit shall be given for the use of an old wall except in conformity with the provisions of Section 29 of this Article. No permit shall be given for the strengthening, repairing or rebuilding of a party wall or for the construction of an independent wall adjoining or enclosing a party wall except in conformity with the

76

- provisions of Section 29 of this Article.
- 77** Separate permits in such cases shall not be required, but the general permit shall state that the use of the old or party wall or the construction of an adjoining or enclosing independent wall is approved. General permit shall include.
- 78** PAR. 19. No elevator shall be erected, and no elevator shaft, appurtenance or machinery shall be changed or altered in any respect without a permit from the Inspector of Buildings, except as provided for in Section 39 of this Article. Elevators, shafts and machinery.
- 79** All permits for the alteration or construction of elevators, including elevator shafts, appurtenances or machinery, shall be recorded in a separate book kept for that purpose. Record of.
- 80** PAR. 20. All permits for fire-escapes shall likewise be kept in a separate book; but if they are to be constructed with other work special permits shall not be required. Fire escapes.
- 81** No fire-escapes shall be erected, altered or removed without a permit signed by the Inspector of Buildings. Permit required.
- 82** PAR. 21. No permit shall be given for a smoke pipe through a roof or floor except for a limited time, not exceeding sixty days, and all such smoke pipes shall be protected as directed by the Inspector of Buildings and special record kept of all such permits. Smoke pipes.
- 83** PAR. 22. Special permits shall be obtained and record kept for the moving of all buildings. Moving buildings.
- 84** PAR. 23. Special permits for open sheds, platforms, temporary structures, signs, fences, retaining walls. temporary electric Open sheds, platforms, etc.

| | | |
|--|---|----|
| Revocation of such permits on notice; penalty. | lamps or other temporary or detached constructions shall be signed by the Inspector of Buildings and recorded in a separate book kept for that purpose. All such special permits may be revoked on thirty days' written notice from the Inspector of Buildings, approved by the Mayor, to the owner or the person having charge thereof, and any person who shall refuse or neglect to conform to the requirements of such a notice shall be liable to a penalty of not more than \$50.00 for every day that such refusal or neglect shall continue after the expiration of the thirty days. No open shed, platform, temporary structure, sign, fence, retaining wall or other temporary or detached construction shall be erected without such a permit. | 85 |
| Permit required. | | 86 |
| Heating boilers, hot air furnaces, etc. | PAR. 24. No heating boiler, hot-air furnaces over coffee roaster or other appliance in which similar fires are maintained shall be placed in a building previously constructed without a special permit from the Inspector of Buildings; but if such an appliance is constructed at the same time that the building is constructed it may be included in the general permit. All special permits for heating shall be returned to the Inspector of Buildings at the time of the first inspection covered by the permit in question. | 87 |
| Special permits required. | | 88 |
| Power permits; revocation of. | PAR. 25. Power permits, including permits for steam-power boilers or engines, gas or gasoline engines, electric dynamos and motors and all other power generators, and all machinery operated thereby, may be re- | 89 |

- voked on ninety days' written notice from the Inspector of Buildings, approved by the Mayor, to the owner or person having charge thereof, provided in the judgment of the Inspector of Buildings the provisions of law or ordinance in relation to such permits or in relation to such methods or means of power or of any ordinance relating to the storage of fuel are not complied with, and any person who shall refuse or neglect to conform to the requirements of such a notice, or shall fail to remove such machinery when required to do so by the Inspector of Buildings, shall be liable to a penalty of not more than \$50.00 for every day that such refusal or neglect shall continue after the expiration of ninety days. A separate record shall be kept of all power permits and no steam-boiler or engine, gas or gasoline engine, electric dynamo or motor of five horsepower or over, or any other power generator, or any machinery to be operated thereby, shall be installed without such a permit signed by the Inspector of Buildings.
- 90** Penalty for violating notice.
- 91** Separate record of power permits.
- 92** PAR. 26. No such permit shall be granted until the application therefor shall have been advertised as provided in Section 5 of this Article. Advertisement of permits.
- 93** No permit shall be given for the use of a roof as a place of observation or for any other purpose for which numbers of persons may come together unless the statements and plans filed with the application or the information on file in the office of the Inspector of Buildings cover the construction of the roof in question, and no permit Roofs; permit for use of

shall be given unless in the judgment of the Inspector of Buildings the enclosure on the roof, its strength and its means of exit are all satisfactory for the purposes and uses for which the permit is given. Such permits shall not be required for ten or less persons, and the total number of persons allowed on the roof shall be named in the permit.

Safes, machinery or other weights.

PAR. 27. No safes, machinery or other weights beyond allowances as called for in Section 19 shall be placed or installed in any building or on any floor thereof without a permit therefor being first obtained from the Inspector of Buildings.

94

Alterations, as repairs; penalty.

PAR. 28. Any owner or person managing or controlling a building, or any contractor or employee who shall make any alteration under the guise of repairs shall be liable to a penalty of not less than \$25.00 nor more than \$100.00 for each and every offense. No

95

Repairs, requirements for.

repairs, however, shall be made to construction which do not conform to the provisions of this Article. In all such cases the changes required shall constitute an alteration and shall conform to all the requirements of this Article.

96

Objections to permits.

PAR. 29. Written objection may be made to the granting of any permit by the Inspector of Buildings, and if as the result of such objection any conditions or requirements are imposed by him, the permit shall conform thereto, and the plans and specifications shall be amended to meet such conditions and requirements.

97

- 98** PAR. 30. In all cases where permits are issued by the Inspector of Buildings, conditioned upon the written consent of the property owners or residents, the document containing such written consent must be made a permanent record of the office of the Inspector of Buildings. Written consent of property owners to permanent record.
- 99** PAR. 31. Amendments to plans and specifications may be made after a permit has been granted, but every such amendment shall require a separate application on a blank furnished by the Inspector of Buildings, accompanied by suitable plans and information, which shall be examined and approved by the Inspector of Buildings before the work covered by such amendment has been begun. Amendments to plans and specifications.
- 100** PAR. 32. Every application for a permit for a new building, alteration or repairing of any structure three stories or more in height shall state what protection will be provided to the sidewalk, but the Inspector of Buildings may require additional protection during the progress of the work if in his judgment additional protection is desirable, Sidewalk protection; permit to state.
- 101** PAR. 33. One copy of all permits and all amendments thereto shall be filed with the application as a permanent record in the office of the Inspector of Buildings. Copies of permits to be filed.
- 102** PAR. 34. All permits herein provided for shall expire by limitation of time in one year after date of signature if no actual work has been done thereunder. Limitation for permits.

General pen-
alties relat-
ing to per-
mits.

PAR. 35. Any owner or other person in charge of a structure who shall undertake any work without a permit as required by this section, or who shall fail to comply with any of the conditions or requirements of any permit issued by the Inspector of Buildings, shall be liable to a penalty of \$50.00, and where the offense is a continuing one shall be liable to a further penalty of \$10.00 for each day such violation continues, except where in a particular case a different penalty is prescribed in this Article.

103

Approval or
disapproval
of Inspector
to be in
writing.

PAR. 36. Whenever the approval or disapproval of the Inspector of Buildings, or a notice of such approval or disapproval shall be given in accordance with the provisions of this Article it shall be in writing on blanks prepared therefor.

104

INSPECTIONS AND TESTS

SECTION 7.

Market
houses.

PAR. 1. Every market house and other buildings belonging to the City of Baltimore shall be inspected once by the Inspector of Buildings each year. The conditions of

105

Report of
condition of.

every such building shall be carefully noted and a detailed report of every such inspection shall be made to the Mayor. All repairs and alterations which in the judgment of the Inspector of Buildings are desirable shall be described and a detailed estimate of their cost shall be made.

106

Repairs and
alterations
to.

107

Theatres and
public
buildings.

PAR. 2. Every theatre and every public building shall be inspected as provided in Section 43 of this Article and a record of

108

every such inspection shall be kept in a separate book for that purpose.

- 109** PAR. 3. Every building or place reported to be in a dangerous condition or which is suspected of being so shall be inspected by the Inspector of Buildings, or by an inspector acting under his direction, and reports of all such inspections shall be made and filed in the office of the Inspector of Buildings. Dangerous buildings.
- 110** PAR. 4. The buildings mentioned in Sections 80 and 280 of the City Charter and every warehouse used for manufacturing purposes in which five or more persons are employed shall be inspected at least once every four years by the Inspector of Buildings, or by an inspector acting under his direction. Buildings mentioned in Sections 80 and 280 of City Charter.
- 111** He shall ascertain if such buildings have proper means of exit and if they otherwise conform to the requirements of law or ordinance, and a report of all such inspections shall be made and filed in the office of the Inspector of Buildings. Exits required.
- 112** PAR. 5. Every areaway, vault, cistern or other excavation and every shed, platform or other temporary or detached structure or object erected on a street, alley or other public ground by the authority of law or ordinance shall be inspected immediately after its completion, and a report of every such inspection shall be made and filed in the office of the Inspector of Buildings. Arcaways, vaults, cisterns and excavations generally.

Elevators and
fire escapes.

PAR. 6. Elevators and fire-escapes shall be inspected as provided in Sections 39 and 40 of this Article, and reports of all such inspections shall be made and filed in the office of the Inspector of Buildings.

113

Heating boilers
and hot-air
furnaces.

PAR. 7'. Heating boilers and hot-air furnaces shall be inspected as provided for in Section 35 of this Article, and reports of all such inspections shall be made and filed in the office of the Inspector of Buildings.

114

New buildings,
alterations,
repairs, etc.

PAR. 8. All new buildings and all alterations, repairs and additions to buildings previously constructed, including old and party walls, foundations, excavations and electrical facilities shall be inspected from time to time during the progress of work thereon as may be determined by the Inspector of Buildings.

115

Power boilers,
steam, gas,
and other en-
gines.

PAR. 9. The conditons under which steam power boilers and engines, gas and gasoline engines, electric dynamos and motors and other generators and the machinery relating thereto are constructed shall also be inspected from time to time during their installation as may be determined by the Inspector of Buildings.

116

Violations;
report of.

PAR. 10. If violations of any of the provisions of this Article, or of any law or ordinance supplementing or superseding its provisions are found, they shall be promptly reported and the location and character of the violation shall be fully stated. If possible, the names of the owner, occupants, architect and contractor shall be given. A record shall be made of all such violations in books kept for that purpose.

117

Report and
record there-
of.

118

- 119** PAR. 11. All tests of new materials and of cements shall be made as directed by the Inspector of Buildings. All tests of cement shall conform to the standard of the American Society of Civil Engineers. Tests.
- 120** PAR. 12. The requirements of Sections 5, 6 and 7, sub-titled "Application, Permits, Inspections and Tests," shall not apply to excavations for gas and water mains, except the said excavations run parallel to and within a distance of four (4) feet from any foundation or wall of any structure. Excavations for gas and water mains.
- 121** PAR. 13. Standpipes and hose in all buildings shall be inspected at least once in every three months and a practical test made thereof, and should there be indicated by such inspection any defect or impairment such imperfect conditions shall be made sound at once. Standpipes and hose; tests.

RULES AND REGULATIONS FOR MISCELLANEOUS PURPOSES.

SECTION 8.

- 122** PAR. 1. The Inspector of Buildings shall be empowered to permit the use of new methods of construction, electrical or elevator equipment not herein provided for, when after proposed examinations and tests by him said methods are found to be in conformity with good practice and the spirit and intent of this Code. New methods of construction, etc.

NEW MATERIALS AND METHODS OF CONSTRUCTION.

Application
for use of
required.

SECTION 9.

PAR. 1. If any person shall desire to use materials or new or unusual methods of construction which are safe and acceptable and according to the spirit of this Article, though not in accordance with the strict letter of its requirements, or if for any reason it is difficult to comply with the exact provisions of this Article, he may make an application to the Inspector of Buildings for permission to use the desired materials or methods or to avoid the difficulty of complying with the exact provisions of this Article. In every such case the Inspector of Buildings shall fix an early date when the application shall be considered. The applicant or his authorized representative may present his reasons for a favorable consideration of his application in writing. The Inspector of Buildings shall render a decision as soon as possible, and such decision shall be final.

123

Consideration
of.

124

Decision to be
rendered.

125

APPEALS FROM DECISIONS OF INSPECTOR OF BUILDINGS.

When and in
what cases
appeals will
lie.

SECTION 10.

PAR. 1. Should the owner or trustees of any building or premises, or the authorized agent of such owner or trustee or the architect or builder in charge of and responsible for the construction of any building object to any order or decision in relation to the materials or

126

methods required to be used by the provisions of this Article, or in relation to any duty or liability imposed upon the persons named by the provisions of this Article, or in relation to any matter or thing to be done in conformity therewith left by the provisions of this Article, to the approval or disapproval or control of the Inspector of Buildings, they may appeal as set forth in the next succeeding section of this Article.

PROCEDURE.

- 127** PAR. 2. The person or persons so appealing shall file with the Inspector of Buildings a declaration of the contention with a deposit of forty-five (\$45.00) dollars to cover a fee of an examining commission within twenty-four hours of the service of the notice relating thereto; the said declaration shall state the exact character of the contention and reasons therefor, and shall name a man who will serve as one of a commission of three referees or arbitrators to be commissioned by the Inspector of Buildings to determine the point or points at issue; the Inspector of Buildings shall appoint a second arbitrator, and the two thus nominated shall select a third arbitrator; should such arbitrators decline to act or fail to select a third arbitrator as aforesaid within forty-eight hours of the receipt of their credentials from the Inspector of Buildings, other arbitrators shall be selected and appointed in like manner in their stead. All of said referees or arbitrators shall be disinterested parties and shall be competent builders, architects or engineers or master mechanics, as the case may be; but in every case they must
- Deposit of fee required.
- Declaration of contention.
- Arbitrators.
- When arbitrators decline to act.
- Qualifications of arbitrators.

| | | |
|--------------------------------------|--|-----|
| Duties of commission. | have practical experience in the trade, profession or line of business under which such work is disputed. The commission so constituted and appointed shall examine the property, matter or thing in contention and shall pass upon all points at issue separately, and the decision thereon shall be in writing, signed by all or two of said referees; said decision shall be filed with the Inspector of Buildings within three days after the appointment of the third arbitrator aforesaid, unless upon the request of the majority of the commission the time shall be extended by the Inspector of Buildings. | 132 |
| Decision; when to be filed. | | 133 |
| Compensation of arbitra- tors. | PAR. 3. The said arbitrators shall each receive fifteen (\$15.00) dollars for their services. If the appeal is completely sustained, their services shall be paid by the Mayor and City Council of Baltimore and the money deposited shall be returned. If the appeal is not sustained, the money so deposited shall be used to pay the fee of said commission. The provisions of this section shall not be construed to lessen in any way the responsibility of parties appealing for any accident that may happen pending the determination of such appeal. | 134 |
| Cost of ap- peal. | | 135 |
| Return of deposit. | | 136 |
| Liability of parties. | | 137 |

LICENSE FROM APPEAL TAX COURT.

SECTION II.

| | | |
|---------------------|---|-----|
| When re- quired. | PAR. 1. Every person making application for a permit for the construction of a new building or for an addition involving a proposed cost of over \$100.00. or for an alteration to a building already constructed in- | 138 |
|---------------------|---|-----|

- 139 involving a proposed cost of \$500.00 or over, shall obtain a license from the Appeal Tax Court therefor. Every such license shall be granted under the regulations of the Appeal Tax Court, except that nothing shall be required to be furnished by the applicant except a statement regarding the character of the permit wanted, the use of the proposed structure and the proposed cost thereof. Conditions of license.
- 140 PAR. 2. Every failure to use the materials or methods of construction required by this Article or to otherwise comply with its constructive provisions shall constitute a violation. Violations of Code defined.
- 141 PAR. 3. Whenever such a violation shall be reported, or whenever it shall come to his notice that such a violation has occurred, unless otherwise specially provided, the Inspector of Buildings shall serve a notice of violation upon the owner of the premises in question or upon the architect or upon the authorized agent of the owner. Notice of violation to be served.
- 142 PAR. 4. Every such notice shall state the character of the violation and the requirements of the Inspector of Buildings in relation thereto, or where such notice is served in conformity with the provisions of this Article governing a particular case, it shall conform to such provision. It shall be signed by the Inspector of Buildings and the date of signature shall be given. It shall be delivered to the person to whom it is addressed by an employee in the office of the Inspector of Buildings as soon there- Contents of notice.
- 143 Inspector to sign.

Service of
notice.

after as possible. If the person in question cannot be found, it shall be delivered to the person who has charge of the work to which it relates, or if he cannot be found, it shall be posted upon the premises, and every such notice and the disposition thereof shall be recorded in the office of the Inspector of Buildings.

144

Penalty for
violation of
notice.

PAR. 5. The requirements of such notice shall be complied with within ten days of the date thereof, and if they are not complied with within that time, the owner, the authorized agent of the owner and the person in responsible charge of the work in question shall severally be liable to a penalty of \$10.00 therefor and \$25.00 additional for each and every day thereafter that such requirements be not complied with.

145

Extension of
times of
notice.

PAR. 6. The Inspector of Buildings may extend the period of ten days if in his judgment a longer time is required or if in his judgment there is other sufficient reason therefor.

146

Appeal:
effect of.

PAR. 7. The owner or the architect, or the authorized agent of the owner on whom the notice was served, may appeal from the action of the Inspector of Buildings in relation thereto, as provided in Section 10 of this Article, in which case the appeal shall suspend all proceedings under the notice until the several matters at issue or in dispute are determined in accordance with the procedure set forth in Section 10 of this Article.

147

- 148** PAR. 8. When the requirements of such a notice shall be complied with, or the requirements of the commission in pursuance with Section 10 of this Article shall be complied with, the Inspector of Buildings shall notify the person to whom the original notice was given that the violation has been removed, and the facts of such removal shall be recorded in the office of the Inspector of Buildings.
- 149** PAR. 9. If the requirements of the Inspector of Buildings or of said commission in reference to any such notice are not complied with within the time limit thereof, or within any extension to it that shall have been made, the Inspector of Buildings shall notify the Board of Police Commissioners for the City of Baltimore, or the president thereof, of the facts in the case and of the liability of penalty that has been incurred.
- 150** PAR. 10. In case any other liability of penalty under this Article shall come to his knowledge, the Inspector of Buildings shall likewise notify the Board of Police Commissioners for the City of Baltimore, or the president thereof, of the facts in the case.
- 151** All such notices to the Board of Police Commissioners for the City of Baltimore, or the president thereof, shall be made in writing and shall be delivered by an employee in the office of the Inspector of Buildings.

Removal of
restrictions;
notice of.

Notice to
Board of
Police Com-
missioners;
when to be
given.

Same as to
violations
generally.

Notices to be
in writing.

COLLECTION OF FINES, PENALTIES AND EXPENSES

SECTION 12.

Inspector to
enforce
provisions.

PAR. 1. It shall be the duty of the Inspector of Buildings to carry into effect the provisions of this section in all cases embraced within its operations.

152

Penalties,
costs and
expenses.

PAR. 2. Except when otherwise provided in this Code, whenever under the provisions of this Article a penalty is incurred for any violation of any of its provisions, or whenever under the provisions of this Article it is made the duty of the Inspector of Buildings to proceed with the enforcement of certain safety or other regulations, or any order or decision of the Inspector of Buildings in relation to any building or other structure or any work, materials or construction, matter or thing in relation to any building or any other structure, and such enforcement involves the expenditure of money for work, labor and materials, advertising and other expenses incidental thereto, the amount or amounts of such penalty or penalties or expense shall be and become a debt against each and every person interested in the property, to be recovered as hereinafter provided, and when so recovered shall be paid to the Comptroller.

153

—to become a
debt against
property.

154

Debt to be a
lien.

PAR. 3. After the Inspector of Buildings has completed his work under such proceedings and the amount of the penalty incurred or the amount of expenses to which the corporation has been put by such enforcement of said provisions of this Article shall be

155

- unpaid, the said penalty or expenses or both shall forthwith become a lien upon the lot or premises in respect to which such liability was incurred, or upon the specific property against which under any provisions of this Article a lien may be created. When judgment in due course of time shall have been obtained for said amount, or for any one of them against the owner or owners of the premises, said property shall be sold under due legal process.
- 156**
- Enforcement of lien by sale of property.**
- 157** PAR. 4. When there is no occupier of the property and the owner or owners or agent or agents thereof do not reside in the City of Baltimore, or if any property chargeable as aforesaid shall be owned by any person or persons or corporation not resident within the limits of the State of Maryland, it shall be the duty of the Inspector of Buildings to expose for sale and sell the same at public auction to the highest bidder for cash; provided that before the Inspector of Buildings shall proceed to sell as aforesaid, he shall give notice of such sale in three of the daily newspapers of the city, together with a particular description of the property proposed to be sold, by advertisement published twice a week for three successive weeks, and he shall deduct from the proceeds of said sale all costs, charges and expenses attendant thereon, as well as the amount of the penalties or expenses incurred and in arrear under the provisions of this Article, and place the balance in the City Treasury to the credit of the owner of the ground or such other party or parties as may be legally entitled thereto.
- 158**
- In case of vacant property and non-resident owners.**
- 159**
- Notice of sale required.**
- Proceeds of sale.**

NOTICE.**SECTION 13.**

Term "owner" defined where "notice to owner" is required to be given.

PAR. 1. Whenever any person or persons shall be in actual possession of or have charge, care or control of any property within the city, as executor, executrix or executors, administrators, administratrix, trustee or trustees, guardian or guardians, agent or agents, such person or persons shall be deemed and taken to be the owner or owners of such property within the true intent and meaning of the several ordinances of the city, and shall be bound to comply with the provisions of any ordinances of the city in relation to buildings; or any other structure erected or in process of erection within the corporate limits of the city or in relation to building construction, materials or methods so far as the same may affect such property, in the same manner and under the same penalties, fines, forfeitures and expense as if such person or persons were actually the owner or owners of such property, and notice to any such person or persons of any order or decision of the Inspector of Buildings shall be deemed and taken to be as good and sufficient notice as if such person or persons were actually the owners of the property.

160

When notice is sufficient.

161

DEFINITIONS.**SECTION 14.**

Of words, etc., hereinafter given.

PAR. 1. The definition contained in Section 14 of this Article shall be the meanings of the respective words and expressions wherever used in this Article and in their use by the Inspector of Buildings.

162

Sections 13, 14, Par. 1.

- 163** PAR. 2. The term "Fire-proof Buildings" shall apply to all buildings in which the principal parts are made of incombustible materials, but not including fire-proofed wood. In all such buildings the walls, floors, roofs, furrings, ceilings, stairs and elevator enclosures, excepting only the finish of the floors, shall be made entirely of the incombustible material. The body of all partitions in such buildings shall likewise be made incombustible, and all structural members of metal shall be protected from fire by a covering, the material of which shall be entirely incombustible, not injuriously affected by water, and a slow conductor of heat.
- "Fire-proof buildings."
- specifications for.
- partitions and metal members.
- 166** PAR. 3. The term "Slow-burning Building" shall apply to all buildings in which the exterior walls are made entirely of brick, stone or concrete, and the floors, roof and interior supports are made of large size timbers with no concealed spaces.
- "Slow-burning building."
- 167** PAR. 4. The term "Ordinary Masonry Building" shall apply to all buildings in which the exterior walls are made of brick, stone or concrete, and the floors and roof are made of ordinary wood construction.
- "Ordinary Masonry Building."
- 168** PAR. 5. The term "Frame Building" shall apply to all buildings the exterior walls of which are constructed of wood. Wood buildings sheathed with boards and covered with four inches of brick work shall be rated as frame buildings. Wood frames covered with metal or lathed and plastered on the outside shall be rated as frame buildings.
- "Frame Building."
- Wood frames.
- 169**

- "Dwelling."** PAR. 6. The term "Dwelling" shall apply to every building which shall be used as the home or residence of not more than two separate, distinct families, and in which not more than fifteen rooms shall be used for the accommodation of boarders, and no part of which shall be used for a store or any other business purpose. **170**
- "Apartment House."** PAR. 7. The term "Apartment House" shall apply to every building which is used as the home or residence of three or more families living independently of each other, and each having its own separate kitchen, set bath tub and water closet. **171**
- "Tenement."** PAR. 8. The term "Tenement" shall apply to every house, building or portion thereof which is rented, leased, let or hired out to be occupied or is occupied as the home or residence of more than three families living independently of one another and doing their own cooking on the premises, or by more than two families on a floor so living or cooking, but having a common right in the halls, stairways, yards, water closets or privies, or some of them. **172**
- "Lodging House."** PAR. 9. The term "Lodging House" shall apply to any house or building or portion thereof in which persons are harbored or received or lodged for hire for a single night, or for less than a week at one time, or any part of which is let to any person to sleep in for any time less than a week. **173**
- "Hotel."** PAR. 10. The term "Hotel" shall apply to every building or part thereof used for supplying food or shelter to residents or **174**

guests and having a general public dining room or cafe or both, and containing also more than fifteen sleeping rooms above the first story.

- 175** PAR. 11. The term "Office Building" shall apply to every building which shall be divided into rooms and used for business purposes, no part of which shall be used for living purposes, excepting only for the janitor and his family. "Office Building."
- 176** PAR. 12. The term "Warehouse" shall apply to every building or part thereof used solely for the sale or storage of merchandise. "Warehouse."
- 177** PAR. 13. The term "Public Building" shall apply to every building used as a place of public assemblage or as a place of public resort. Churches, theatres, schools, railway stations and department stores shall be rated as public buildings. Halls and other large rooms used as places of public assembly for amusement, instruction or otherwise, the lobbies and other large rooms in hotels and large rooms in business and manufacturing buildings where large numbers of people are required for service or are liable to congregate, shall be rated as places of public assembly, and so far as such rooms are concerned shall be treated as public buildings. "Public Building."
- 178** Churches, theatres.
- 179** Other places of assemblage.
- 180** PAR. 14. The term "Bearing Wall" shall apply to all walls carrying floors or other structural members. "Bearing Wall."
- 181** PAR. 15. The term "Non-Bearing Wall" shall apply to all walls which do not carry floors or other structural members. "Non-bearing Wall."

- "Supported Wall."** PAR. 16. The term "Supported Wall" shall apply to all walls carried upon or supported by steel or reinforced concrete girders, carried on piers or on protected iron or steel columns, or by steel frame construction. **182**
- "Foundation Wall."** PAR. 17. The term "Foundation Wall" shall apply to all walls and piers built below the curb level, or below the tier of beams nearest to the curb level, and carrying the walls, piers, beams, girders or columns of a building. **183**
- "Retaining Wall."** PAR. 18. The term "Retaining Wall" shall apply to all walls below ground constructed for the purpose of holding back or supporting the adjoining earth. Retaining walls may carry sidewalks, floors or roofs at or near the level of the ground. **184**
- "Party Wall."** PAR. 19. The term "Party Wall" shall apply to all walls dividing adjoining premises and used in common by both. **185**
- "Division Wall."** PAR. 20. The term "Division Wall" shall apply to all inside walls of structural importance. **186**
- "Partition or Partition Walls."** PAR. 21. The term "Partition or Partition Walls" shall apply to all interior walls in frame construction and to all interior walls in other buildings which are not structurally important. Partition walls shall not be bearing walls. **187**
- "Fire Walls."** PAR. 22. The term "Fire Walls" shall apply to all walls in fire-proof, slow-burning and ordinary masonry buildings built for the purpose of fire resistance. All internal **188**

- 189** fire walls are division walls. Fire walls may or may not be bearing walls. All party walls are also fire walls. "Internal Walls."
- 190** PAR. 23. The term "Dead Wall" shall apply to a wall without openings. "Dead Wall."
- 191** PAR. 24. The term "External Walls" shall apply to the outer walls enclosing a building. "External Walls."
- 192** PAR. 25. The height of a building shall be measured from the curb level at the centre of the front of the building to the top of the highest point of the roof beams. Where the walls of a building do not adjoin a street then the height of a building shall be measured from the average level of the ground adjoining the walls, instead of from the street curb. Height of buildings—measurement of.
- 193** PAR. 26. The height of a wall carried on iron, steel or reinforced concrete girders which are supported by columns or piers or by other walls shall be measured from the top of the girder. Height of walls—same.
- 194** PAR. 27. The height of a story, except the top story, shall be the distance from the finished floor line in that story to the finished floor line in the story above. The height of a story in the clear shall be the distance from the finished floor line to the general line of finished ceiling. The height of the top story shall be the top story in the clear. Height of stories.
- 195** PAR. 28. The length of a building shall be measured in the direction of the greatest linear dimension, and the width of a building shall be measured at right angles to its length. Same — in the clear.
- 196** PAR. 28. The length of a building shall be measured in the direction of the greatest linear dimension, and the width of a building shall be measured at right angles to its length. Length of buildings.

| | | |
|----------------------------|---|-----|
| "Cellar" or "Basement." | PAR. 29. The term "Cellar" or "Basement" shall apply to the lower story of any building or house of which one-half or more of the height from the floor to the ceiling is below the level of the street adjoining. | 197 |
| "First Story." | PAR. 30. The term "First Story" shall apply to the lower story of a building if more than one-half the height of the story in the clear is above the level of the street adjoining, or if there is a basement in the building the term shall apply to the story above the basement. | 198 |
| "First Floor." | PAR. 31. The term "First Floor" shall apply to the floor of the first story. | 199 |
| "Vault." | PAR. 32. The term "Vault" shall apply to any underground construction outside of the area of the first story which is connected to the building as an integral part of it. | 200 |
| "Footing." | PAR. 33. The term "Footing" shall apply to all that part of a foundation wall or pier below the beginning of its spread. | 201 |
| "Pier." | PAR. 34. The term "Pier" shall apply to any isolated mass of brick, stone or concrete masonry of structural importance. | 202 |
| "Attic. Story." | PAR. 35. The term "Attic Story" shall apply to any story situated wholly or partly in the roof. | 203 |
| "Court." | PAR. 36. The term "Court" shall apply to any enclosed space wholly or partially surrounded by a building and too large to be properly considered a shaft. | 204 |

- 205** PAR. 37. The term "Show Window" shall apply to a store window in which goods are displayed. "Show Window."
- 206** PAR. 38. The term "Bay Window" shall apply to a window which projects from an exterior wall at any story for any purpose other than for display of goods. "Bay Window."
- 207** PAR. 39. The term "Oriel Window" shall apply to a window which projects from an exterior wall with a cantilevered or bracketed support. "Oriel Window."
- 208** PAR. 40. The term "Building Line" shall apply to the outside line of the walls of a building at the ground level. If the building is built adjoining a street or an alley, the term building line shall apply to the street or alley line as established by law or ordinance. "Building Line."
- 209** PAR. 41. The term "Terra Cotta" when used alone shall apply to the hand-moulded, baked clay material used for the architectural decoration and construction of walls. "Terra Cotta."
- 210** PAR. 42. The term "Hard Terra Cotta Fire-proofing" shall apply to all clay fire-proofing material that is manufactured without sawdust. "Hard Terra Cotta."
- 211** PAR. 43. The term "Semi-porous Terra Cotta Fire-proofing" shall apply to all clay fire-proof material having twenty per cent. of sawdust, measured by volume, mixed with eighty per cent. of clay. "Semi-porous Terra Cotta."

- "Porous Terra Cotta."** **PAR. 44.** The term "Porous Terra Cotta Fire-proofing" shall apply to all clay fire-proof material having fifty per cent of sawdust, measured by volume, mixed with fifty per cent. of clay. **212**
- "Steel Frame Construction."** **PAR. 45.** The term "Steel Frame Construction" shall apply to every metal frame used for the support of a building. In such construction the columns shall carry the loads and the walls shall be supported at each floor. The steel frame shall include all the cast and wrought iron, as well as steel used in its construction. **213**
- "Girder."** **PAR. 46.** The term "Girder" in floor construction shall apply to all beams that are used for the support of other beams. **214**
- "Reinforced Concrete Construction."** **PAR. 47.** The term "Reinforced Concrete Construction" shall apply to all concrete used in the construction of posts, beams, lintels, girders, arches, walls and floors, roofs and ceilings which are strengthened by iron or steel mesh, wires, cables, bars, or shapes imbedded in the concrete. **215**
- "Dead Load."** **PAR. 48.** The term "Dead Load" shall apply to and include the weight of the walls, floors, etc., of a building, including all permanent construction. **216**
- "Live Load."** **PAR. 49.** The term "Live Load" shall apply to and include all weights in a building other than dead loads. Such loads shall include temporary construction, furniture and people. **217**
- "Building."** **PAR. 50.** The term "Building" shall apply to any structure which can be occupied **218**

for living purposes, or for business or pleasure or for shelter.

219 PAR. 51. The term "Alteration" shall apply to any operation within or about or to any addition to a structure which modifies its situation, plan, manner of construction or kind of materials, or in any way changes the grade of its occupancy. "Alteration."

220 PAR. 52. The term "Repairs" shall apply to any operation within or about a structure undertaken for its maintenance and which does not change the construction and materials sufficiently to constitute an alteration. "Repairs."

221 PAR. 53. The term "Fence" shall apply to any structure erected to enclose a ground area. "Fence."

222 PAR. 54. The term "Alley" shall apply to any public thoroughfare or private way less than 30 feet in width. "Alley."

FIRE LIMITATIONS AND HEIGHTS OF BUILDINGS.

SECTION 15.

223 PAR. 1. No frame building or other wood structure shall be built hereafter in the city of Baltimore within the following limits; Beginning from the intersection of the east-

224 ern and southern city limits on the east; thence north to the intersection of the eastern limits and to intersect a line drawn easterly with and continuing the line of the north side of Twenty-sixth street; thence westerly, reversing said line, and bounding on the north side of said Twenty-sixth street

Frame Building prohibited.

Prohibited area.

and continuing said line until it intersects the easternmost side of the Reisterstown turnpike road; thence southwesterly by a direct line to the intersection of the southern limit of the city and the easternmost side of Gwynn's Falls; thence along the southern boundaries to the place of beginning.

Height of
buildings
limited.

PAR. 2. No building shall be made more than 175 feet high, except towers, spires and belfries in fire-proof buildings may extend to a greater height.

225

Tenement
and apart-
ment
houses.

PAR. 3. No tenement or apartment house shall be made more than ten stories and a basement, nor more than 125 feet high, and no tenement or apartment house shall be more than five stories and a basement, nor more than 70 feet high without being made a fire-proof building.

226

Buildings
over 85
feet.

PAR. 4. Every building more than 85 feet in height shall be made a fire-proof building.

227

Frame build-
ing.

PAR. 5. No frame building shall be made more than three stories high, except spires and belfries of churches outside of the fire district may be constructed of wood to the height of 125 feet above the curb.

228

Occupants of
frame build-
ings limited.

PAR. 6. No frame building used as a tenement or apartment house shall be made for occupancy by more than six families, and no frame building shall be made for occupancy as a hotel or lodging house.

229

Certain build-
ings to be
fire-proof.

PAR. 7. Every building more than 45 feet or three stories in height hereafter altered or erected within the corporate limits of the

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City of Baltimore and used as a hotel, lodging house, school, theatre, hospital or institution for the care or treatment of persons shall be made a fire-proof building.

- 231** PAR. 8. The first story of every non-fire-proof building three stories in height or more hereafter altered or erected in the City of Baltimore and used as an apartment house or tenement shall be made fire-proof, as required for fire-proof buildings. The entire floor construction over the first story
- 232** shall likewise be made fire-proof. If the building has a basement and the story above the basement is used for a store or for any other general business purpose, for offices, both the basement and the story above, with the floor over it, shall be made fire-proof.
- 233** PAR. 9. Outside of the fire district a clear open space not less than 10 feet wide shall be reserved on each side of each frame building, and this space shall be entirely upon the lot belonging to the building in question. There shall not be less than 20 feet between
- 234** any frame buildings, and no other buildings of any kind shall be built within 20 feet of any existing frame building.
- Fire-proofing of first story.
- of basement and first story.
- Space between buildings outside of fire district.
- Minimum space between frame buildings.

PROTECTION REQUIREMENTS AND DANGEROUS AND PARTIALLY DESTROYED BUILDINGS

SECTION 16.

- 235** PAR. 1. Excavations for any purpose whatever must have guards or fences to protect the public as shall be approved by the
- Excavations—guards for.

Inspector of Buildings, all to be properly lighted at night.

Footway bridge
over excava-
tions.

PAR. 2. Should the excavation be under the footway, a bridge must be constructed not less than five (5) feet wide and of ample strength for the safety of pedestrians; said bridge can be placed at any place between the building line and the curb as will best facilitate the builder in his work, but must be solidly boarded up the sides to prevent accident. Should a pavement be less than ten (10) feet in width, the above mentioned bridge shall be of such a width as the Inspector of Buildings shall direct. Bridge to be kept well lighted at night.

236

Temporary
footway;
construction
and main-
tenance of.

PAR. 3. This bridge may be kept five (5) feet above the level of the pavement, with steps extending on adjoining pavements on either side, provided such projections of steps shall not interfere with entry way to adjoining houses.

237

Footway
bridge; con-
struction of.

PAR. 4. The space under any elevated bridge next to street may be used for receiving building materials, provided proper guards for safety are maintained and kept lighted at night.

238

Space beneath
bridge.

PAR. 5. All such bridgeways must have the approval of the Inspector of Buildings before being used.

239

Bridges to be
approved.

PAR. 6. Builders shall have the right to use the street and sidewalk in front of their buildings for materials to be used in the building, provided there be left a space equal in size to the bridgeway above named, and further provided said materials do not extend into the driveway more than one-third of the distance between curb nor to any dis-

240

Use of side-
walk for
building ma-
terials.

241

tance that will allow less than ten (10) feet passageway for vehicles.

- 242** PAR. 7. Any additional use of the streets for building materials shall only be by permission of the City Engineer. Should there
- 243** be a railroad track on the street where materials are to be stored, there must be a clearance of three and a-half ($3\frac{1}{2}$) feet between the outer rails and the materials. No building materials entering into
- 244** the structural framework of a house up to roofing in will be allowed to remain on any street or sidewalk longer than thirty days after the house is roofed-in, nor shall any materials intended for a structure, after roof is on, remain on a street or sidewalk longer than thirty days after completion. This applies to altering and re-
- 245** pairing as well as building.
- 246** PAR. 8. All sidewalks where buildings are being razed must have such protections as the Inspector of Buildings deems necessary, or must be protected by a substantial shed, and should said shed be used as a platform for materials of workmen, it must be constructed in such substantial manner as would be required for a permanent structure, and the sides and ends thereof to be fenced and guarded as required by the Inspector of Buildings.
- 247** PAR. 9. Skylights of adjoining buildings shall be protected with a stout wire netting having not over $\frac{3}{4}$ -inch mesh properly attached to a timber frame when any building is to be constructed more than two stories above roof of such adjoining buildings.

Additional use
of street.

Clearances for
railroad
tracks.

Time limit for
use of street
or sidewalk.

To apply to
altering and
repairing.

Sidewalks; pro-
tection of
pending
building.

Skylight
protection.

Refusal of
owner to
grant per-
mission.

Should the owner, tenant or lessee of such adjoining buildings refuse, however, to grant permission to protect such skylights as herein provided, such refusal shall relieve the builder or owner of the building in course of construction from any responsibility for damage done to persons or property for want of such protection.

248

Inspector to
protect in
event of
failure of
owner to act;
lien for ex-
pense.

PAR. 10. If the means for protection are not provided as herein required by the builder or owner within three days after the service of a notice relating thereto, the Inspector of Buildings shall have full power and authority to provide such means and all expenses relating thereto shall become a lien upon the property in question, which lien may be created and enforced as provided in Section 12 of this Article.

249

Notice to ad-
joining
owner to un-
derpin.

PAR. 11. The owner or builder of any structure where work of building, alterations or repairs are to be made that will affect or come in contact with adjoining property or require underpinning and shoring of walls of adjoining property, must give the owner or owners of the adjacent property written notice of the proposed work; said notice shall specify the nature of the work to be done and the depth of any or all foundations for said work.

250

—contents of
notice.

251

Failure of
owner to
underpin.

PAR. 12. Should an owner, or agent of owner, receiving such a notice neglect or fail to act as the conditions for the improvements require within ten working days from the date of service to be noted in the notice, the owner or builder shall notify the Inspector of Buildings of such failure, and the

252

Inspector of Buildings shall proceed to do all necessary work required under said notice at the expense of the owner of said property, provided that the Inspector of Buildings shall have given said owner twenty-four (24) hours written notice of said procedure.

- 253** PAR. 13. The expense of such work done by the Inspector of Buildings, if not paid within thirty days after completion, shall become a lien on the premises, as provided in Section 12 of this ordinance. Lien for expense.
- 254** PAR. 14. The Inspector of Buildings shall have full power to enter upon any premises or remove any obstacle for the execution of any work under this section. Right of entry upon premises.
- 255** PAR. 15. Temporary openings in floors, maintained for a period of time for the elevation of building materials or otherwise shall be enclosed by a suitable guard. Temporary openings in floors.
- 256** PAR. 16. Two (2) inch plank covering shall be maintained on the uppermost completed tier of beams from which the workmen are raising the next succeeding tier of one or two stories as the case may be. Two-inch plank covering no uppermost tier required.
- 257** PAR. 17. All staging, false work, derricks, hoisting apparatus or travellers used in the construction of buildings in the City of Baltimore shall have ample strength and stability and shall be subject to the approval of the Inspector of Buildings. If any such staging or false work, etc., disapproved by the Inspector of Buildings, is not made satisfactory by the builder or owner within Staging, false-work, derricks, etc.
- 258** Disapproval of by Inspector.

twenty-four hours after they shall have received notice relating thereto, all work pertaining to the construction of the building in question shall cease.

Penalty for
violating
provisions of
section.

PAR. 18. The builder and owner shall severally be liable to a penalty of \$25.00 for each and every violation of the provisions of this section.

259

Dangerous or
unsafe
buildings.

PAR. 19. Any building or other structure or part thereof erected or in process of erection in the City of Baltimore in a dangerous or unsafe condition, or deemed to be so from any cause whatsoever, shall be made safe and secure or shall be vacated and closed, or shall be taken down by the owner or his representative at the expense of such owner on the service of a notice relating thereto made by the Inspector of Buildings, all of which shall be done as set forth in such notice and within the period of time named therein. Such notice shall be in writing and the requirements thereof shall call for such action as in the judgment of the Inspector of Buildings, the emergency of the case demands, and shall conform as nearly as practicable to the provisions of Section 13 hereof relating to notices served by the Inspector of Buildings.

260

Notice to
make safe.

PAR. 20. If the owner or his representative shall contend that the property in question is not in an unsafe or dangerous condition, he may appeal from the instructions of the Inspector of Buildings, as provided in Section 10 of this Article.

261

Appeal from
instruction
of Inspector.

262

- 263** PAR. 21. If upon the determination of such appeal changes or alterations of any kind are required, they shall be commenced within twenty-four hours after the filing of the report of said arbitration. Finding after appeal to be complied with.
- 264** PAR. 22. Upon neglect or failure of said owner or his representative to make the changes or alterations as required by the report of said arbitration, the Inspector of Buildings, with the approval of the Mayor, shall have full power and authority to proceed with the changes and alterations as required, and whatever expense shall be incurred in relation thereto shall be paid by the City Register out of any unappropriated money in the treasury, and any and all parties interested in the premises shall become indebted to the Mayor and City Council of Baltimore for the full amount so expended, which claim shall become a lien on the entire lot within the described bounds of the premises and all property on said lot; said claim to be recovered as provided in Section 12 of this Article. Neglect of compliance.
- 265** —to authorize Inspector to make changes.
- 266** Costs thereof.
- 267** to be a lien.
- 268** —recovery thereunder.
- 269** PAR. 23. If, after the service of the notice prescribed in the first paragraph of this section the owner or his personal representative does not appeal as herein in this section set forth, the Inspector of Buildings shall cause a poster to be placed in some conspicuous place on the premises notifying all persons interested that a notice having been given in accordance with this section, and the same having been disregarded or neglected, the Inspector of Buildings will proceed, at the expiration of ten days from Failure to observe notice.
- 270** Posting of premises.

the date named in said poster, to make the premises safe and secure to persons and property in whatever way may be necessary so to do.

Disregard of
posted no-
tice.

PAR. 24. If said last mentioned notice be disregarded, the Inspector of Buildings, with the approval of the Mayor, shall have full power and authority to make all alterations and repairs and to take down, if necessary, any building or other structure so condemned as unsafe or dangerous, and whatever expense is incurred thereby shall be paid by the City Register as herein provided in case of failure to act after an appeal is decided; said expenses to be a like debt and lien and to be recovered in like manner as hereinbefore in this section provided in the case of failure to act after an appeal is decided.

271

Expense of
making safe.

272

Emergency
provisions.

PAR. 25. In cases of great emergency, where the delay of proceeding as hereinbefore in this section provided would result in probable loss of life or property, the Mayor shall have the power to direct the Inspector of Buildings to proceed at once to take such action as is needed to guard the safety of persons or property, and should it become necessary on account of great risks in approaching to demolish or throw down any wall or structure of any kind, the city and its officers, agents and employees, shall be harmless from any damage that might occur from such necessary demolition, and the whole risk or expense thereof shall be on and assumed by the owner or representative of the property in defective condition.

273

Demolition of
dangerous
structures.

274

Liability for
damage.

275

- 276** Whenever action is taken as aforesaid in such cases of emergency, the Inspector of Buildings shall have full power and authority to provide all necessary means therefor, and all expense relating thereto shall be paid by the City Register as hereinbefore provided, and the amount thereof shall become a debt due the Mayor and City Council of Baltimore from any and all parties interested in the property in question, and such claim shall be a like lien and be recovered in like manner as the claims and liens hereinbefore mentioned.
- 277**
- 278** PAR. 26. No provisions of this section shall relieve the owner or his representative from liability because of accident or loss occurring after the service of notice by the Inspector of Buildings
- 279** PAR. 27. The owner or his representative shall also be liable to a penalty of \$100.00 for failure to proceed upon receipt or service of the notice mentioned in the first paragraph of this section or upon failure to comply with the requirements of the arbitrators when an appeal is taken as hereinbefore provided, and to a penalty of \$25.00 in addition thereto for every additional day that the notice of the Inspector of Buildings or the requirements of said arbitrators remain unheeded.
- 280** PAR. 28. No remaining portion of a building partially destroyed by fire shall be used in rebuilding the structure without the approval of the Inspector of Buildings and all or any of the remaining portions of such a
- Powers of Inspector in emergencies.
- Expenses of Inspector.
- Liability of owner unaffected.
- Penalty for disregard of notice.
- Buildings partially destroyed by fire.

building shall be demolished by the owner or his representatives on the service of a notice relating thereto made by the Inspector of Buildings.

Procedure in
case of par-
tially de-
stroyed
buildings.

PAR. 29. If the use in rebuilding of any remaining portion in question in such a building shall not be approved by the Inspector of Buildings, or if the owner or his representative shall contend that any such portions shall not be demolished as required he may proceed, and the Inspector of Buildings shall proceed as provided in this section for dangerous buildings.

281

Vacation of
dangerous
buildings.

PAR. 30. If in any case where a building is partially burned or otherwise in a dangerous or unsafe condition, or deemed to be so, the Inspector of Buildings may require that it shall be vacated at once, and if in his judgment it is necessary for public safety, he may temporarily close the sidewalks and streets adjacent thereto or any part thereof. And where the conditions are such as to justify prompt compliance with the order of the Inspector of Buildings to avoid loss of life, it shall be the duty of the Inspector of Buildings to immediately notify the Board of Police Commissioners of the facts in the case and of the necessity for the prompt removal of any person refusing to vacate such building.

282

Police to act
in urgent
cases.

283

THE CHARACTER OF BUILDING MATERIALS.

SECTION 17.

- | | | |
|-----|---|---------------------------------|
| 284 | PAR. 1. All material used in buildings shall be of good quality and suitable for the purposes for which they are used. They shall be free from imperfections impairing their strength or durability. Materials requiring fire-resisting qualities shall be subject to fire tests, as provided by the regulations of the office of the Inspector of Buildings. All materials shall be subject to the approval of the Inspector of Buildings. The acceptable qualities of any new materials, and also of all old materials, shall be fixed by the Inspector of Buildings. | Quality of. |
| 285 | | Fire tests. |
| 286 | | Inspector to approve materials. |
| 287 | PAR. 2. All brick used in buildings shall be good, hard, well burned brick; provided that in small dwellings good salmon may be used in the upper stories. When old brick are used, they shall be thoroughly cleaned, and not less than eighty per cent. shall be whole. | Brick. |
| 288 | | Use of salmon brick. |
| 289 | | Old brick. |
| 290 | PAR. 3. Ornamental terra cotta shall be homogeneous, hard burned and free from all imperfections. Outer walls shall be at least 1½ inches thick and division walls not less than 1 inch thick. Ample provisions shall be made for anchoring, and the hollow spaces shall not be more in width or height than to give ample strength to the terra cotta block. | Ornamental terra cotta. |
| 291 | | Thickness of in walls. |
| 292 | | Hollow spaces. |

| | | |
|-------------------------|--|-----|
| Stone. | PAR. 4. All stone used in buildings shall be hard, sound and clean. | 293 |
| Lime. | PAR. 5. All lime shall be thoroughly burned, of good quality and properly slaked before use. | 294 |
| Portland cement. | PAR. 6. The standard of every brand of Portland or natural cement, the use of which is permitted in the City of Baltimore, shall be maintained in quality, burning, fineness, chemical analysis, physical tests, and in every other consideration by which the good character of cement is determined. | 295 |
| Sand. | PAR. 7. All sand used in mortars shall be clean and sharp, and shall not contain more than five per cent. of clay or loam, and shall be free from all vegetable or other deleterious foreign matter. | 296 |
| Lime mortar. | PAR. 8. All lime mortar shall be made of one part of lime and not more than three parts of sand. | 297 |
| Lime and cement mortar. | PAR. 9. All lime and cement mortar shall be made of one part of cement and one part of lime, and not more than three parts of sand. | 298 |
| Cement mortars. | PAR. 10. All cement mortars shall be made of one part of cement and not more than three parts of sand, when Portland cement is used, or one part of cement and two parts of sand when natural cement is used. The cement shall be taken from the original packages when ready to mix, and shall be dry and free from lumps. It shall | 299 |
| Requirements for. | | 300 |

- 301** be thoroughly mixed with the dry sand before any water is added. All cement mortar shall be used before it has taken its initial set. If it is not so used it must be wasted. Use after settling prohibited.
- 302** PAR. 11. Original packages in this section means the bags or barrels coming from the mill with the maker's name thereon. Original packages.
- 303** PAR. 12. All concrete used in foundations, foundation walls and retaining walls shall be made of one part of Portland cement with not more than three parts of sand and not more than five parts of broken stone. The cement shall be taken from the original packages when ready to mix, and shall be Concrete in foundations, etc.
- 304** dry and free from lumps. The stone shall all be small enough to pass it in any way through a two-inch ring. The materials shall be measured and shall be mixed dry before any water is added. All concrete Materials for.
- 305** shall be put in place as soon as mixed, and thoroughly rammed in layers not over eight inches thick. No concrete shall be used Mixing of.
- 306** in freezing weather. With the approval of the Inspector of Buildings, good, hard, broken brick or washed gravel may be used in place of the broken stone. Broken brick or washed gravel.
- 307** PAR. 13. Stone concrete used in floors or in walls above ground shall be made one part Portland cement, two parts sand and five parts broken stone, and with the same precautions required for concrete used in foundations; but the broken stone shall all be small enough to pass in any way through Stone concrete in floors or walls above ground.
- 308** a one-inch ring. Wash gravel may be used in vertical wall when approved by the Inspector of Buildings. Wash gravel in vertical walls.

Cinder concrete.

PAR. 14. Cinder concrete, used as elsewhere specified in this Article, shall be made of one part of Portland cement with two parts of sand, not more than five parts of well burned cinders.

309

Concrete blocks or stones.

PAR. 15. Concrete made in blocks or stones used in buildings shall be made of one part of Portland cement to not more than four parts of sand or crushed stone. Such material shall have an ultimate resistance in compression of not less than 1,500 pounds per square inch, and subject to tests as required by the Inspector of Buildings.

310

—requirements for.

311

Timber.

PAR. 16. All timber shall be sound and equal to a grade of merchantable inspection

312

Wrought iron.

PAR. 17. All wrought iron shall be uniform and fibrous. It shall have an ultimate tensile resistance of not less than 48,000 pounds per square inch, an elastic limit of not less than 24,000 pounds per square inch, and an elongation of twenty per cent. in 8 inches when tested in small test pieces.

313

Structural steel in buildings.

PAR. 18. All structural steel used in buildings in the City of Baltimore shall be free from seams, flaws, cracks, defective edges or other defects, and shall have a smooth, uniform finish. It may be made by either the Bessemer or open hearth process.

314

—in beams and columns.

PAR. 19. Structural steel used in beams and columns and in other large members shall have an ultimate tensile resistance of from 60,000 pounds to 70,000 pounds per

315

- square inch, an elastic limit equal to one-half of its ultimate resistance and a percentage of elongation in eight inches equal to $\frac{1,400,000}{\text{ultimate resistance}}$. Such steel shall also bend
- 316** 180 degrees to a diameter equal to the thickness of the piece tested without fracture on the outside of the bent portion when tested in a test piece, ordinary soft steel with an ultimate strength of 55,000 to 65,000 pounds per square inch, and with the other requirements as given above for medium steel, may be used when desired, with a reduction of eight per cent. in the unit stresses given in the following paragraphs. In either medium or soft steel the maximum allowable phosphorous shown by chemical analysis will be one-tenth of one per cent. when the steel is made by the acid process, and five-hundredths of one per cent. when made by the basic process. Specifications for.
- 317** —phosphorus allowable.
- 318** PAR. 20. Rivet steel shall have an ultimate resistance of from 48,000 pounds to 58,000 pounds per square inch, an elastic limit equal to one-half of its ultimate resistance and a percentage of elongation in eight inches equal to $\frac{1,400,000}{\text{ultimate resistance}}$. Such steel shall not contain more than four-hundredths of one per cent. of phosphorous. Rivet steel.
- 319** —phosphorus allowable.
- 320** PAR. 21. Cast steel when tested in coupons that were not detached from the casting until after annealing shall have an ultimate resistance of from 60,000 to 70,000 pounds per square inch, an elastic limit equal to forty-five per cent. of its ultimate resistance and an elongation in two inches Cast steel.

| | | |
|----------------------------------|---|-----|
| Steel castings and cast columns. | of eighteen per cent. All steel castings shall be annealed. All cast steel column bases and all other important steel castings shall have coupons cast with each casting. Such steel shall not have more than one-tenth of one per cent. phosphorus when made by the acid process, nor more than five-hundredths of one per cent. when made by the basic process. | 321 |
| —phosphorus allowable. | | 322 |
| Cast iron castings. | PAR. 22. All cast iron castings shall be made of clean, tough, gray iron. They shall be free from injurious blow holes, cold shuts and cinder spots. Sample bars one inch square, cast in sand molds in a span of 12 inches, shall bear a central load of 2,400 pounds, with a minimum deflection of one-tenth of an inch before breaking. | 323 |
| Specifications for sample bars. | | 324 |

ALLOWABLE STRESSES IN BUILDING MATERIALS.

SECTION 18.

Table of maxima.

PAR. 1. The allowable stresses in direct compression in building materials shall not be greater than the following in pounds per square inch of section of tons per square foot of area.

325

Metal members.

POUNDS.

326

| | |
|--|--------|
| Rolled steel..... | 16,000 |
| Cast steel..... | 16,000 |
| Wrought iron..... | 12,000 |
| Cast iron. in short blocks..... | 16,000 |
| Steel pins and rivets (bearing)..... | 20,000 |
| Wrought iron pins and rivets (bearing) | 15,000 |

[illegible]

| | | POUNDS. | |
|-----------------------|-----------------------------|--------------|------------|
| Granite, marble, etc. | New England Granites (ac- | | 331 |
| | cording to test) | 1000 to 2400 | |
| | Indiana Limestone | 1000 | |
| | Cement stone | 400 | |
| | Falls Road stone | 1500 | |
| | Guilford Granite | 1000 to 2400 | |
| | Port Deposit | 1500 to 3000 | |
| | Beaver Dam Marble | 1000 to 2000 | |

332

Loads on steel columns. PAR. 2. The allowable stresses for dead and live loads in steel columns shall not be greater than the following in pounds per square inch of section. The following in pounds per square inch of section shall be according to formula:
 S—Stress in pounds per square inch.
 L—Length of columns between supports in inches.

R—Least radius of gyration in inches.

$$\text{Medium steel columns: } S = \frac{15,000}{L^2} \div \left(1 + \frac{1}{13,500} R^2 \right)$$

$$\text{Soft steel columns: } S = \frac{14,000}{L^2} \div \left(1 + \frac{1}{13,500} R^2 \right)$$

333

—Cast iron columns. The allowable stresses for dead and live loads in cast iron columns shall not be greater than the following in pounds per square inch of section:

$$\text{Cast iron columns: } S = \frac{11,000}{L^2} \div \left(1 + \frac{1}{10,000} R^2 \right)$$

When $\frac{\text{Length}}{\text{Radius of Gyration}}$ equals 50 or less. 10,000

- 334** PAR. 3. The allowable stresses for dead and live loads in wood posts which are not longer than twelve times their diameter or least dimension shall not be greater per square inch of section than the allowable stresses in compression for the same kind of wood as given in Section 18 of this Article and these stresses shall be reduced 125 pounds each time the length of the posts are increased by twelve times their diameter or least dimension. —Wood posts.
- 335** PAR. 4. The allowable stresses for dead and live loads in reinforced concrete columns shall not be greater than the following in pounds per square inch of section, when such columns are made in accordance with the provisions of Section 18 of this Article. Concrete section inside of reinforcement only, 500 pounds per square inch. —Reinforced concrete columns.
- 336** PAR. 5. In all such columns the total area in the bars shall not be greater than six per cent. of the whole enclosed section. Area of bars.
- 337** PAR. 6. The allowable unit upon hooped columns composed of stone concrete shall not be over 1,200 pounds per square inch, figuring the net area of the circle within hooping. Hooped columns.
- 338** PAR. 7. The percentage of longitudinal rods and the spacing of the hoops to be such as to permit the concrete to safely develop the above unit stress with a safety factor of six. Safety factor.

- Eccentric loading.** PAR. 8. Any column eccentrically loaded shall have the stresses caused by such eccentricity computed, and the combined stresses resulting from such eccentricity at any part of the column, added to all other stresses at that part, shall in no case exceed the working stresses given in Section 18 of this Article. **339**
- Distribution of.** PAR. 9. The eccentric load of a column shall be considered to be distributed equally over the entire area of that column at the next point below at which the column is securely braced laterally in the direction of the eccentricity. **340**
- Loads on piles.** PAR. 10. The allowable stresses for dead and live loads on piles shall not be greater per square inch of section, taken at the middle of the pile, than the following. **341**
- Wood piles.** PAR. 11. In wood piles, not more than eighty per cent. of that allowable in the same kind of wood in direct compression; in concrete piles, 350 pounds per square inch of total section; in reinforced concrete piles, 350 pounds per square inch of total section on the concrete and 12,000 pounds per square inch of section on reinforcing steel. **342**
- Concrete piles.** In reinforced concrete piles, the steel section shall not be more than six per cent. of the total section of the pile, and no steel section shall be allowable unless it is continuous from the top to the bottom of the pile, straight, and covered with at least 1½ inches of concrete. Tubes of iron or steel used to enclose the concrete shall not be counted for strength. **343**
- Reinforced concrete piles.** **344**

345 PAR. 12. The allowable stresses for dead —Caissons.
and live loads in concrete in caissons may be increased to twenty-four tons per square foot. Concrete capping over piles and concrete used in leveling up under base stones set on natural rock may be increased in direct bearing to fifty per cent. or more than given in this sub-division of this Article for direct compression.

346 PAR. 13. The allowable stresses in direct tension in building materials shall not be greater than the following in pounds per square inch of net section: Stresses in direct tension.

| | POUNDS. |
|---------------------|---------|
| Rolled Steel..... | 16,000 |
| Cast Steel..... | 16,000 |
| Wrought Iron..... | 12,000 |
| Cast Iron..... | 5,000 |
| Long Leaf Pine..... | 1,800 |
| White Pine..... | 1,000 |
| Spruce | 1,200 |
| Oak | 1,500 |
| Hemlock | 800 |
| Virginia Pine..... | 1,200 |

347 PAR. 14. Direct stresses in tension shall not be allowed in concrete, reinforced or otherwise. —Prohibited in concrete.

348 PAR. 15. The allowable stresses in shear in building materials shall not be greater than the following in pounds per square inch of section. Shear stresses allowable.

| —in steel, iron, etc. | | POUNDS. | | |
|--------------------------|--|---------|--|------------|
| | | | | |
| | Steel Web Plates..... | 9,000 | | 349 |
| | Steel Shop Rivets and Pins..... | 10,000 | | |
| | Steel Field Rivets..... | 8,000 | | |
| | Steel Field Bolts..... | 7,000 | | |
| | Wrought Iron Web Plates..... | 6,000 | | |
| | Wrought Iron Shop Rivets and Pins..... | 7,500 | | |
| | Wrought Iron Field Rivets..... | 6,000 | | |
| | Wrought Iron Field Bolts | 5,500 | | |
| | Cast Iron | 3,000 | | |

| —in timber. | | POUNDS. | | |
|-------------|-----------------------|-------------|---------------|------------|
| | | WITH GRAIN. | ACROSS GRAIN. | |
| | Long Leaf Pine... 100 | | 500 | 350 |
| | White Pine..... 85 | | 350 | |
| | Spruce | 90 | 350 | |
| | Oak | 100 | 720 | |
| | Hemlock | 75 | 350 | |
| | Chestnut | .. | 150 | |
| | Virginia Pine..... 90 | | 400 | |

Bending stresses allowable. PAR. 16. The allowable extreme fibre stresses in bending shall not be greater than the following in pounds per square inch of section: **351**

| —in steel and iron. | | POUNDS. | | |
|---------------------|--|---------|--|------------|
| | | | | |
| | Rolled Steel Beams..... | 16 000 | | 352 |
| | Rolled Steel Pins, Rivets and Bolts. | 20,000 | | |
| | Riveted Steele Beams (Net Flange Section) | 15,000 | | |
| | Rolled Wrought Iron Pins, Rivets and Bolts | 15,000 | | |
| | Cast Iron (Compression side)..... | 16,000 | | |
| | Cast Iron (Tension side)..... | 5,000 | | |
| | Long Leaf Pine | 1,800 | | |
| | White Pine | 1,000 | | |

| | | POUNDS. | |
|-----|-----------------------|---------|----------------------------|
| 353 | Spruce | 1,350 | —in timber, stone, etc. |
| | Virginia Pine..... | 1,350 | |
| | Oak | 1,500 | |
| | Hemlock | 1,000 | |
| | Granite | 180 | |
| | Greenwich Stone | 150 | |
| | Limestone | 150 | |
| | Slate | 400 | |
| | Marble | 120 | |
| | Sandstone | 100 | |

354 PAR. 17. The maximum allowable stresses in bending in reinforced concrete shall not be greater in pounds per square inch of section than the following: —in reinforced concrete.

| | | In Tension. | In Compression | In Shearing. | |
|-----|------------------------|-------------|----------------|--------------|-------------|
| 355 | Concrete | 0 | 500 | 50 | —limits for |
| | Wrought iron... 9,000 | 7,000 | 7,000 | | |
| | Soft steel..... 12,000 | 8,000 | 8,000 | | |
| | Medium Steel... 15,000 | 9,000 | 10,000 | | |

356 PAR. 18. All concrete used in bending shall be reinforced for tension. —concrete in bending.

357 PAR. 19. For truss members in direct tension or compression, which are also subjected to transverse stress, the sum of the separate stresses resulting therefrom shall not exceed the least stress otherwise allowable. Transverse stresses.

358 The same rule shall hold for any combination of loads in any other members. Members and connections subjected to opposite or alternate stresses shall be proportioned to meet the extreme condition in either case. Combination loads.

Irregular
stresses;
safety
factor.

PAR. 20. Stresses not otherwise specified **359**
in the sub-divisions of Article shall be gen-
erally determined by the following factors
of safety:

| | |
|------------------------------------|----|
| Wrought Iron and Steel..... | 4 |
| Cast Iron..... | 6 |
| Reinforced Concrete..... | 6 |
| Natural and Artificial Stone... 10 | |
| Brick and Stone Masonry..... | 10 |

—on wood
beams.

PAR. 21. The safe carrying capacity of **360**
wood beams for uniformly distributed loads
shall be determined by multiplying the area
in square inches by its depth in inches and
dividing this product by the span of the
beam in feet. The required load is this re-
sult multiplied by the following:

—of pine,
oak, etc.

| | | |
|-------------------------------|--------------------|------------|
| For Hemlock | 150 | 361 |
| For Spruce and Pine..... | 150 | |
| For Oak..... | 175 | |
| For Yellow Pine (Virginia)... | 150 | |
| For Yellow Pine (Georgia)... | 150 200 | |

—short span
beams.

PAR. 22. The safe carrying capacity of **362**
short-span timber beams shall be determined
by their resistance to shear in accordance
with the unit stresses fixed by Section 18 of
this Article.

Elasticity of
reinforced
concrete.

PAR. 23. All calculations of reinforced **363**
concrete construction shall be based upon a
ratio of the co-efficient of elasticity of steel
to that of concrete equal to 15 to 1. They
shall also be based upon a uniform co-effi-
cient of elasticity in concrete within allow-
able stresses and an adhesive bond between

the reinforcing steel and the concrete of 60 pounds per square inch of surface of bars.

364 PAR. 24. In beam and girder construction the deformation in both concrete and reinforcing materials at different points in the same section shall be taken to be proportional to the distances of the points in question from their neutral axis.

Deformation
of reinforced
concrete.

365 PAR. 25. Calculations of reinforced concrete construction shall also conform to the requirements of sections on reinforced concrete of this Article, and to the regulations of the Inspector of Buildings relating to such construction.

Calculation re-
quirements
for.

366 PAR. 26. The weight of building materials used in the calculation of stresses shall be taken at not less than the following in pounds per cubic foot:

Weight of
materials.

| | | | |
|------------|---------------------------------------|-----|---------------------------|
| 367 | Ordinary Brick Masonry | 120 | —Brick ma- sonry, etc. |
| | Rubble Masonry | 150 | |
| | Granite | 170 | |
| | Marble | 170 | |
| | Limestone | 160 | |
| | Sandstone | 145 | |
| 368 | Stone Concrete | 150 | —Concrete. |
| | Cinder Concrete | 96 | |
| | Cinder filling under floors | 72 | |
| | Snow, freshly fallen | 10 | |
| | Snow, wet | 50 | |
| 369 | Spruce | 24 | —Timber. |
| | Hemlock | 24 | |
| | White Pine | 24 | |
| | Long Leaf Pine | 48 | |
| | Oak | 48 | |
| 370 | Virginia Pine | 43 | —Tile, etc. |
| | Terra Cotta or Tile | 50 | |

LOADS ON FLOORS, COLUMNS, FOUNDATIONS, ETC.

SECTION 19.

| | | |
|-------------------------|---|-----|
| Table of minima. | PAR. 1. All floors in new buildings shall be made strong enough to carry not less than the following evenly distributed live loads per square foot of floor: | 371 |
| —Dwellings, hotels. | Dwellings 60 pounds. | 372 |
| | Hotels 60 " | |
| | Lodging Houses 60 " | |
| | Apartment Houses 60 " | |
| | Tenements 60 " | |
| —Office buildings, etc. | Office buildings, first and basement floors 150 " | 373 |
| | Office Buildings, above first floor 75 " | |
| | Schools 75 " | |
| | Stables 100 " | |
| —Public buildings. | Carriage Houses 100 " | 374 |
| | Public Buildings with fixed seats 75 " | |
| | Public Buildings without fixed seats 125 " | |
| —stores and factories. | Ordinary Stores 125 " | 375 |
| | Light Manufacturing 125 " | |
| | Light Storage 125 " | |
| | Stores handling heavy goods... 175 " | |
| | Heavy Manufacturing 175 " | |
| | Heavy Storage 250 " | |
| | Sidewalks 200 " | |
| —Other buildings. | PAR. 2. Floors in any new building used for other purposes shall be made strong enough to carry an evenly distributed live load sufficient for such purposes, and this load, on application, shall be determined by the Inspector of Buildings. | 376 |

- 377** PAR. 3. Floors subject to vibration from machinery or otherwise shall be made strong enough to carry increased loads, or the construction shall be modified in other respects, in either case as required by the Inspector of Buildings. Vibration protection of floors.
- 378** PAR. 4. Buildings may be constructed or altered to carry heavier live loads than those given in this section; but in case such construction or alteration is desired, the increased load or loads shall be definitely set forth in the statement filed in the office of the Inspector of Buildings. Heavy load requirements.
- 379** PAR. 5. Safes and other heavy concentrated loads shall be placed near columns, or their load shall be distributed so that the floor construction shall not be overstrained. Safes and heavy loads.
- 380** PAR. 6. When required by the Inspector of Buildings, the owners or agents of warehouses and buildings or parts of buildings in which manufacturing is carried on, erected prior to the passage of this ordinance, shall furnish the Inspector of Buildings with a statement regarding the size of the beams and girders in the construction of the floors of such buildings, together with other information, on blanks to be furnished therefor by the Inspector of Buildings. These statements shall be made by competent architects, engineers or builders, and their correctness shall be sworn to by the persons making them. The statements shall also contain the evenly distributed loads in pounds per square foot of floor which the Beams, etc., in factories.
- 381** —Statement of.

- owner or agent desires to carry on the floors described or on parts thereof.
- Determination of loads.** PAR. 7. The Inspector of Buildings shall examine every such statement when it has been filed, and shall determine the maximum load or loads that shall be allowed on the floors described, and such maximum loads shall not be greater than would be allowable under the provisions of this Article for new buildings. **382**
- Verification of estimates.** PAR. 8. The officers and employees of the office of the Inspector of Buildings may enter any building for the purpose of verifying the statements relating thereto, or to obtain further information regarding the construction of such buildings, and may make measurements and remove portions of flooring or ceiling or other parts that are deemed necessary to make the examination complete. **383**
- Entry by Inspector.** PAR. 9. The Inspector of Buildings shall enter any such warehouse or buildings in which manufacturing is carried on for the purpose of such an examination, and shall determine the maximum allowable loads without the statements as herein provided, if such action is deemed desirable. **384**
- Costs of examinations.** PAR. 10. The Inspector of Buildings shall have full power and authority to provide the means for making the measurements and for removing portions of flooring or ceiling in making examinations, as herein provided; and, if not paid by the owner or **385**

agent, all expenses relating thereto shall become a lien upon the property in question, which lien may be created and enforced as provided in Section 12 of this Article.

386 PAR. 11. When the maximum load or loads have been determined, the owner or agent shall be notified, and thereupon he shall post the amount of said maximum loads in a conspicuous place on each floor or part thereof to which it relates. Posting loads.

387 PAR. 12. The maximum live load or loads allowable on the floors of any building, or part of a building in which manufacturing is carried on, erected subsequently to the passage of this Article, shall be likewise posted, the amount of such maximum load or loads to be determined by the Inspector of Buildings from the records of construction on file in the office of the Inspector of Buildings. Loads in factories.

388 PAR. 13. Any owner or agent or occupant of a warehouse or building in which manufacturing is carried on shall be liable to a penalty of \$25.00 for each and every violation of this section. Penalty.

389 PAR. 14. All roofs on new buildings having a pitch of twenty degrees or more shall be made to carry not less than 20 pounds per square foot of evenly distributed vertical live loads, measured on a horizontal plane. Roof loads.

| | | |
|----------------------------------|--|-----|
| Flat roof loads. | PAR. 15. All roofs on new buildings having a pitch of less than twenty degrees shall be made to carry not less than 40 pounds per square foot of evenly distributed live load. | 390 |
| Roofs for public assembly. | PAR. 16. Roofs used as places of public assembly or other special purposes shall be made to carry the live loads per square foot as are required on floors used for like purposes. | 391 |
| Sidewalk loads. | PAR. 17. All sidewalks hereafter constructed shall be made to carry not less than 200 pounds per square foot of evenly distributed live load. | 392 |
| Floor beam requirements. | PAR. 18. All floor beams shall be made strong enough to carry the dead load and the full live loads as specified in Section 19 of this Article. | 393 |
| Column requirements. | PAR. 19. All columns in buildings five stories or less in height shall be made strong enough to carry the dead load and the full live load specified in this Article. | 394 |
| —in buildings over five stories. | PAR. 20. In buildings over five stories in height, except warehouses, the columns shall be made strong enough to carry the dead load and a reduced live load as follows: | 395 |
| —for lower floors. | PAR. 21. The top-story columns and those in the next story below shall be made strong enough to carry the full live loads as specified in Section 19 of this Article. The columns in the next lower story shall be made strong enough to carry ninety-five per | 396 |

- cent. of the live loads specified in Section 19 of this Article. In each succeeding lower story there shall be a corresponding five per cent. reduction in the live loads which the columns shall carry until the specified live load is reduced fifty per cent. For all lower stories the reduction shall remain fifty per cent.
- 397**
- 398** PAR. 22. All bearing walls and piers, the thickness of which is not otherwise fixed, shall be made strong enough to carry the dead load, including their own weight, and the full live loads as specified in Section 19 of this Article.
- 399**
- 400** PAR. 23. All foundations shall be made strong enough to carry the dead load, including their own weight and the live load required to be carried by the walls, piers or columns immediately supported thereon.
- 401**
- PAR. 24. The supporting areas of foundations and all other conditions determining their supporting power shall be proportioned to the full dead load, including the weight of the foundation itself, and in addition thereto one-half of the full live loads, as specified in Section 19 of this Article, for floors and roofs of warehouses, and one-quarter of the full live load specified for floors and roofs of other buildings.
- PAR. 25. Soils carrying foundations shall not be loaded more than the following number of tons per square foot:
- Reduction of load on lower floors.
- Loads on bearing walls, etc.
- on foundations.
- proportions of foundations.
- Loads on foundation soils.

| | | | |
|----------------------|--|---------|------------|
| —Clay, etc. | Soft clay..... | 1 ton. | 402 |
| | Ordinary clay and sand in alternate layers | 2 tons. | |
| | Clay, or clay mixed with sand, firm and dry..... | 3 " | |
| | Very hard clay..... | 4 " | |
| | Loam or fine sand, firm and dry | 3 " | 403 |
| —Sand, etc. | Coarse sand | 4 " | |
| | Coarse gravel..... | 6 " | |
| | Good hard pan or hard shale.. | 12 " | |
| | Good hard pan or hard shale under caissons..... | 18 " | |
| | Hard rock | 20 " | |
| —Rock, etc. | Hard rock under caissons.... | 24 " | 404 |
| Soil tests. | PAR. 26. When the soil is very soft or when any doubt arises as to its sustaining power, the Inspector of Buildings may require borings to be made or the sustaining power of the soil to be tested. at the expense of the owner of the proposed building. | | 405 |
| Pile spacing. | PAR. 27. Piles shall be placed so that there shall be a clear space between them on all sides of not less than 24 inches, the measurement being taken with the mean diameter of an average pile. | | 406 |
| Pile loads on rocks. | PAR. 28. Piles reaching to rock or hard pan may be loaded as much as the pile can carry in its mean section without exceeding the stress per square inch of section provided for in Section 19 of this Article. | | 407 |
| --on hard stratum. | PAR. 29. Piles reaching to and supported by a hard sustaining stratum shall not be loaded more than the sustaining | | 408 |

- power of a corresponding area of the stratum at the maximum rate,, as specified in Section 19 of this Article; or, if the bearing power of this stratum is in any way doubtful, the piles shall not be loaded more than the sustaining power in like manner of the next underlying stratum. Test piles may be required by the Inspector of Buildings.
- 409
- 410 PAR. 30. Piles driven in a soft or yielding material shall in no case be loaded more than two tons per inch of mean diameter.
- 411 PAR. 31. In all such cases test piles shall be driven under the general directions of the Inspector of Buildings. Such tests shall conform to the following regulations:
- I. The test pile shall be selected by the Inspector of Buildings.
 - II. The test shall not be started until twenty-four hours after the pile is driven.
 - III. The pile shall be loaded with twice the purposed carrying load.
 - IV. The settlement shall be measured daily until twenty-four hours shows no settlement.
- 412 PAR. 32. One-half of the test load shall be allowed for the carrying load, if the test shows no settlement for twenty-four hours and the total settlement has not exceeded 1-100 of an inch multiplied by the test load in tons.

- Wind pressure. PAR. 33. All new buildings exposed to wind shall be made strong enough to resist a horizontal wind pressure in any direction of 30 pounds per square foot of exposed surface, measuring the entire height of the building. 413
- Calculation of PAR. 34. The additional loads caused by the wind pressure upon beams, girders, walls and columns must be determined by calculation and added to other loads for such members, as provided for in Section 19 of this Article. 414
- Special bracing. PAR. 35. Special bracing shall be employed wherever necessary to resist the distorting effect of the wind pressure. 415
- Overturning moment. PAR. 36. In no case shall the overturning moment due to the wind pressure exceed fifty per cent. of the moment of the stability of the structure. 416

FOUNDATIONS.

SECTION 20.

- Demolition of buildings. PAR. 1. Whenever it becomes necessary to demolish a building or other structure, or any part thereof, the owner, architect, or contractor shall give not less than twenty-four hours' notice to the Inspector of Buildings on blanks to be furnished by the Inspector of Buildings for that purpose. 417
- Method of PAR. 2. A building shall be taken down story by story. The wrecked material shall not be allowed to accumulate on the floors, 418

but shall be lowered to the ground as soon as it is displaced.

- 419** PAR. 3. Before beginning the work of demolition the sidewalks shall be protected by a substantial covering, as provided for in Section 16 of this Article. Sidewalk.
protection.
- 420** PAR. 4. Excavations for buildings or other structures shall be protected at all times to guard against accident or loss of life or property. Excavations—
protection of.
- 421** PAR. 5. The adjoining ground shall be held in place and prevented from caving in or settling during the work of excavation by shoring, sheath piling or other means, and when the excavation is completed the sides of the opening shall be built up with a permanent construction sufficient to fully prevent any future displacement of surrounding property. Shoring of.
- 422** PAR. 6. Pumping water or any other operation during the work of excavation, when dangerous to surrounding property, may be prohibited by the Inspector of Buildings. Pumping water.
- 423** PAR. 7. The owner of any building in person or by representative shall have access to any adjoining property on which an excavation is being made to protect the building from settlement or other injury, and to repair, underpin or rebuild its foundations after proper notice has been served. Adjoining
property.

Owner of adjoining property to protect—when.

PAR. 8. If an excavation is 10 feet or less in depth below the point at the top of the curb in front of the centre of the building or lot, or where such excavation is made, an adjoining building shall be protected from settling or from other injury, and its foundations and foundation walls shall be repaired, underpinned or rebuilt by the owner of the adjoining property as he may determine and at his expense, and he shall be solely responsible therefor.

424

Notice to adjoining owner.

PAR. 9. The owner or builder of any structure where work of building, alterations or repairs are to be made that will affect or come in contact with adjoining property or require underpinning of walls of adjoining property, must give the owner or owners of the adjacent property written notice of the proposed work; said notice shall specify the nature of the work to be done and the depth, if any, and all foundations for said work.

425

Failure of owner to act.

PAR. 10. Should an owner, or agent of an owner, receiving such notice neglect or fail to act as the conditions for improvements require within ten working days from the date of the service noted on the notice, the owner or builder shall notify the Inspector of Buildings of such failure, and the Inspector of Buildings shall proceed to do all necessary work required under said notice at the expense of the owner of said property, provided that the Inspector of Buildings shall have given the said owner twenty-four hours written notice of said procedure.

426

- 427** PAR. 11. The expense of such work done by the Inspector of Buildings, if not paid within thirty days of completion, shall become a lien on the premises as provided in Section 12 of this ordinance. Lien for expenses.
- 428** PAR. 12. The Inspector of Buildings shall have full power to enter upon any premises or remove any obstacle for execution of any work under this section. Right of entry to premises.
- 429** PAR. 13. If an excavation is more than 10 feet in depth below the point aforesaid, an adjoining building shall be protected from settling or from any other injury, and its foundations and foundation walls shall be repaired, underpinned or rebuilt so that the building shall be as safe as it was before the excavation was commenced by the person or persons causing the excavations to be made, and at their expense and on their responsibility, provided the owner of the adjoining building does not refuse to give the person or persons causing the excavation to be made written permission to enter the premises of the building for that purpose. Builder to underpin and protect—when.
- 430** PAR. 13. If an excavation is more than 10 feet in depth below the point aforesaid, an adjoining building shall be protected from settling or from any other injury, and its foundations and foundation walls shall be repaired, underpinned or rebuilt so that the building shall be as safe as it was before the excavation was commenced by the person or persons causing the excavations to be made, and at their expense and on their responsibility, provided the owner of the adjoining building does not refuse to give the person or persons causing the excavation to be made written permission to enter the premises of the building for that purpose. Permission to enter to protect.
- 431** PAR. 14. If the owner of the adjoining building refuses to give the person or persons making the excavation a written permission to enter the premises of the building, the protection of the building and the repairing, underpinning and rebuilding of its foundations and foundation walls shall be done by the owner, and at his expense, and he shall be solely responsible therefor. When permission is refused.

Underpinning
etc., per-
mits for.

PAR. 15. In any case the repairing, underpinning or rebuilding of any foundation or foundation wall of such an adjoining building shall be done in accordance with the provisions of this Article for new buildings, and permits shall be obtained from the Inspector of Buildings in the same way as for new buildings.

432

Protection of
party walls.

PAR. 16. If an adjoining party wall is used in the construction of a new building, the party wall and the adjoining building which is party to its use shall be protected from settlement or other injury; and the foundations and foundation walls shall be repaired, underpinned, rebuilt and made good as may be necessary for the permanent safety and use of the adjoining building as it stands and for the new building as it will be constructed, by the person or persons causing the excavation to be made, and at their expense and on their responsibility, regardless of the depth of the excavation.

433

By whom pro-
vided.

434

On default —
Inspector
may act.

PAR. 17. If an adjoining building with or without a party wall shall not be protected from settlement or injury, or the repairing, underpinning or rebuilding of its foundation shall not be done to the satisfaction of the Inspector of Buildings by the person or persons responsible therefor under the provisions of this Article, the Inspector of Buildings may in his judgment proceed as provided for in Section 16 of this Article in case of dangerous buildings.

435

- 436** PAR. 18. Footings on soil or rock may be made of stone, grillage, concrete, reinforced concrete or bricks. Footings.
- 437** PAR. 19. If on soil, the bearing shall not be on disturbed material, the excavation shall not be less than 3 feet below the surface, except for frame buildings, and the footing shall not be on filled ground, unless it is well settled earth and is approved by the Inspector of Buildings. Excavations
for footings.
- 438** PAR. 20. If on rock, the surface of the rock shall not be sloping, and all loose rock shall be removed. Rock footings.
- 439** PAR. 21. In every case the centre of gravity of the footing shall closely coincide with the centre of gravity line of the load or loads, except in party line footings, in which case proper provisions shall be made. Center of
gravity of
footings.
- 440** PAR. 22. Footings under all walls and piers shall be in such proportion as are needed for the weight to be sustained and the character of the soil on which they rest. Area of.
- 441** PAR. 23. Stone used in footings shall be of large size and of parallel or nearly parallel faces. They shall be laid in cement mortar. Stone for.
- 442** PAR. 24. Grillage beams shall be set over an underlying course of concrete not less than 12 inches thick. They shall also be completely embedded in concrete, the spaces between the beams shall be grouted and the Grillage
beams.

| | | |
|-----------------------------------|--|-----|
| | metal shall be covered at all points not less than 2 inches. | |
| Disposal of grillage beams. | PAR. 25. The beams shall be disposed to properly distribute the loads and shall be accurately spaced. | 443 |
| Beams under column bases. | PAR. 26. Six or less beams in a course and all beams immediately under column bases shall be provided with steel, cast iron or pipe separators and bolts. | 444 |
| Concrete, etc., footings. | PAR. 27. Concrete and reinforced concrete footings shall be put in place inside of plank forms with exact dimensions and in correct position. | 445 |
| Stepped up footings. | PAR. 28. Stepped-up footings of this character shall be made in courses not less than 8 inches thick, and each course shall be put in place before the one under it has set. The footing must be kept clean and free from foreign matter until all courses are in place. If the concrete is reinforced it shall be made 4 inches in thickness at the bottom before any of the reinforcing metal is put in position, and all metal must be covered by not less than 2 inches of concrete. | 446 |
| Reinforcing of. | PAR. 29. If piles are required to carry foundations, borings shall be first made and test piles driven, as approved by the Inspector of Buildings. | 447 |
| Piles — foundations for. | PAR. 29. If piles are required to carry foundations, borings shall be first made and test piles driven, as approved by the Inspector of Buildings. | 448 |
| Materials for piles. | PAR. 30. Piles may be made of wood, concrete or reinforced concrete, and may be put in place by driving or by a water jet. If | 449 |

the piles are driven, the driving shall not in any case be sufficient to injure the pile.

- 450** PAR. 31. Piles shall be driven to rock or hard pan if practicable, otherwise they shall be driven into hard sustaining stratum. Piles, driving of.
- 451** PAR. 32. The number of piles shall be sufficient to support the load or loads as provided in Section 19 of this Article, entitled "Loads on Floors, Columns, Foundations, etc." Sections 18 and 19, inclusive, and the centre of gravity of the piles supporting a foundation shall coincide with the centre of gravity line of the load or loads which it carries. —number of.
- 452** PAR. 33. No pile under 20 feet in length shall be used that is less than 6 inches in diameter at the small end and 10 inches at the large end, and no pile 20 feet or more in length shall be used which is less than 8 inches in diameter at the small end. —length of, and diameter.
- 453** PAR. 34. The tops of all wood piles shall be cut off below mean low tide line. Capping and ranging timbers laid on piles shall be equal to hard Georgia pine not less than 6 inches thick and properly joined together, and the top of such timbers must be below the mean low tide line. —topping and caps of.
- 454** PAR. 35. Concrete used to cap piles shall fill the space between the tops of the pile 6 inches in depth, and shall be not less than 12 inches thick above the top of the highest pile covered. —concrete caps for.

- Footings on piles.** PAR. 36. In every case the footings of the supported foundations shall extend over the tops of all the piles and shall be constructed as required for footings on soil. **455**
- Special regulations for piles.** PAR. 37. Special regulations shall be made by the Inspector of Buildings for piles and pile driving for foundations of buildings constructed over water where the piles may be required to extend above the mean low tide line. **456**
- Caisson foundations.** PAR. 38. If caisson foundations are carried to rock having a sloping surface, the rock must be cut or broken to a benched or irregular surface before the working chamber is filled . **457**
- on hard-pan support.** PAR. 39. If caissons are carried to a hard-pan support, the concrete filling shall be made level on the bottom and carried into the hard-pan not less than 12 inches at the lowest point of the hard-pan surface. **458**
- extension of footings when allowed.** PAR. 40. If caissons are carried to a hard-pan or shale support, or to a support on any other equally sustaining stratum, the bottom of the footing may be extended outwardly below the working chamber, provided such extension does not exceed an angle of sixty degrees from the horizontal plane. **459**
- Working chamber to be filled.** PAR. 41. The working chamber shall be completely filled with concrete. and in order to secure this result the very top of the opening shall be filled with Portland cement **460**

grout made of one part cement and one part of fine sand.

- 461** PAR. 42. The concrete shaft above the working chamber may be constructed at different times, but the incompleated surface of the shaft shall be kept clean, or it shall be washed perfectly clean when a new course of concrete is added. Concrete shaft above chamber.
- 462** PAR. 43. The centre of gravity of the concrete shaft shall coincide with the centre of gravity line of the load or loads, and the shaft shall be plumb whenever practicable. If the centres of gravity do not coincide, or if the shaft is finished out of plumb, in either case more than 3 per cent. of the width of the caisson, the fact shall be reported to the Inspector of Buildings and he shall determine what percentage of its proposed load may be allowed or what changes shall otherwise be made in the foundation plan. —center of gravity of.
- 463** PAR. 44. Stepped-up brick masonry may be used on a footing of concrete or stone. If laid in single courses, the offsets shall not exceed $1\frac{1}{2}$ inches; if laid in double courses, they shall not exceed 3 inches. Stepping shall be required wherever the footing projects more than 6 inches. Stepped-up brick masonry footings.
- 464** PAR. 45. Combination footings may be constructed with inverted arches of brick or stone masonry or of concrete, connecting piers or walls. In such construction the piers or walls and the inverted arches connecting them shall be constructed on a bottom footing course of concrete or stone, and Combination footings.
- 465** Piers, walls, etc.

Piers, anchors
or rods. the piers and walls shall be connected by wrought iron or steel rods with suitable bearing plates or anchors to take up the thrust of the arch. The rods must be embedded their full length in concrete, so that the metal shall be covered on all sides by not less than 2 inches. 466

Thrust of
arch. 467

Character of
materials. PAR. 46. The character of the materials used in foundations shall conform to the requirements of Sections 18 and 19, inclusive, of this Article; the stresses shall not exceed the allowable stresses for materials, as provided for in Sections 18 and 19 of this Article, and the loads shall not exceed those specified in Section 19, all of this Article. 468

CELLARS, VAULTS, SIDEWALKS, STEPS AND AREAS.

SECTION 21.

Loads. PAR. 1. The floor of the cellar or lowest story of every dwelling, hotel, lodging house, apartment house, tenement, public building, office building, hospital or other institution for the care or treatment of persons, and every building in which manufacturing is carried on, erected after the date from which this Article becomes effective, shall be made of concrete not less than 3 inches thick, with a top finish of cement mortar 1 inch thick, made of one part of cement to not over two parts of sand. 469

Concrete floors
for cellars. 470

Requirements
for.
Wood floors. PAR. 2. Wood floors may be laid in such cellars or lowest floors, but in such cases 471

the wood sleepers shall be placed on top of the concrete.

- 472** PAR. 3. Where dwelling houses are built upon low, made or damp ground, the sleepers shall be imbedded in the concrete and not over half inch of space to be between the concrete and flooring. Dwellings on low or damp ground.
- 473** PAR. 4. Outside entrances to cellars having steps leading down shall be covered or shall be enclosed with a substantial railing not less than 3 feet high. Cellar entrances; outside.
- 474** PAR. 5. Areaways outside of buildings depressed below the level of the sidewalk, or the level of the ground, shall be enclosed by a substantial railing not less than 3 feet high, and when the depression extends to within 3 feet of the line of the street, the gates in such railings shall open inwardly. Areaways—enclosure of.
- 475**
- 476** PAR. 6. The entire surrounding construction of such areaways shall be of iron, masonry, or other incombustible material. —Surrounding construction for.
- 477** PAR. 7. A plat of every proposed vault, cistern or other open space under a sidewalk, street or alley, showing its location with respect to the adjoining street or lot lines shall be filed with the application for the permit for its construction. Vaults or cisterns—plats required.
- 478** PAR. 8. Whenever a vault, cistern or other opening under a sidewalk, street or alley is not made in accordance with the permit, the permit shall become void and the opening shall be filled or changes made, as —when permit for void.

| | | |
|--|--|-----|
| New permit. | the Inspector of Buildings may direct. If changes are made, a new permit shall be obtained, as provided in Section 6 of this Article, and additional charges shall be paid if required by the Board of Estimates. | 479 |
| Vaults or cisterns— completion of. | PAR. 9. All vaults or cisterns or other openings under sidewalks, streets or alleys shall be completed and closed and roofed in within three weeks after their construction is commenced, unless an extension of time has been obtained from the Inspector of Buildings, which he may give whenever he may deem it necessary or expedient. The owner and builder shall each be liable to a penalty of \$5.00 per day for each and every day that an opening shall be incompletd and uncovered in violation of this provision. | 480 |
| —Penalty. | | 481 |
| —Retaining walls for. | PAR. 10. Whenever vaults, cisterns or other openings are made under sidewalks, streets or alleys, the surrounding grounds, gutters, curbs and pavements shall be supported and protected from settlement by retaining walls of masonry or other suitable construction, and the ends of vaults under sidewalks shall be completely closed by cross walls which shall fully protect the adjoining property. The walls and roofs of all such vaults or other openings under sidewalks, streets or alleys shall be made of masonry or other incombustible material of suitable construction. | 482 |
| —to be of ma- sonry, etc. | | 483 |
| —limits for. | PAR. 11. The retaining wall enclosing a vault under a sidewalk shall not project beyond the outer line of the gutter. | 484 |

- 485** PAR. 12. Openings in the roofs of vaults, cisterns or other open spaces under sidewalks, streets or alleys for the admission of coal or light, or for other purposes, and outside of permitted areas, if any, shall be covered with glass set in iron frames or with iron covers having a rough surface. Vaults, cisterns, etc. — openings, etc., of.
- 486** PAR. 13. When any such opening is made in a sidewalk it shall be placed as near the curb as practicable. —location of.
- 487** PAR. 14. All vaults under sidewalks shall be covered with incombustible materials of sufficient strength to accord with requirements of Section 19 of this ordinance. —coverings for.
- 488** PAR. 15. The finish on top to be constructed of such materials and have such grade as are prescribed by City ordinances. —finish of top of.
- 489** PAR. 16. Pavement lights in iron frames may be used to a distance of one-third of the width of the pavement from the building line. Pavement lights.
- 490** PAR. 17. All covers for openings in sidewalks shall be flush with the pavement and securely fastened and guarded when open. Covers for openings.

FIRE-PROOF BUILDINGS.

SECTION 22.

- 491** PAR. 1. Foundation and retaining walls and piers in fire-proof buildings shall be made of brick or stone laid in Portland cement mortar, or of concrete or reinforced Foundation and retaining walls.

concrete, or of steel beams bedded in brick masonry or concrete.

Exterior
walls and
piers.

PAR. 2. The exterior walls and piers of fire-proof buildings above ground shall be made of brick, terra cotta or stone, laid in cement mortar, or of concrete or reinforced concrete, and wood shall not enter into their construction. **492**

—To extend to
top of roof.

PAR. 3. All exterior walls of fire-proof buildings shall extend to top of roof covering. **493**

Floors.

PAR. 4. The floors in fire-proof buildings shall be carried by bearing walls and piers, reinforced concrete construction or steel beams. **494**

—walls sup-
ports for.

PAR. 5. Floors, arches and slabs dependent on walls and piers for support shall have an offset immediately under the floor of not less than 2 inches, or a continuous metal wall plate projecting from the wall not less than 2 inches. Such a wall plate shall be not less than 4 inches in the wall. **495**

—thickness of

PAR. 5. Floors, arches and slabs dependent on walls and piers for support shall have an offset immediately under the floor of not less than 2 inches, or a continuous metal wall plate projecting from the wall not less than 2 inches. Such a wall plate shall be not less than 4 inches in the wall. **496**

Reinforced
concrete
beams or
girders.

PAR. 6. Reinforced concrete beams and girders carrying floors must be constructed in accordance with the provisions of this Article. **497**

Steel beams
for floors.

PAR. 7. Steel beams shall be so arranged that their total load shall not cause a greater deflection than $1/30$ of an inch per foot of span. **498**

- 499** PAR. 8. Beams carrying arches which are used to resist thrust shall be tied together with tie rods at intervals of not more than eight times the depth of the beam. Beams carrying arches.
- 500** PAR. 9. Tie rods must also connect to walls carrying floors direct, and such rods shall be substantially anchored in the walls to which they connect. Tie rods for walls.
- 501** PAR. 10. Tie rods shall be located so as to take up the thrust of the arch, but they shall be entirely covered and protected by the construction of the arch if practicable. —location of.
- 502** PAR. 11. Arches shall be made of brick, hollow burned clay or terra cotta fire-proofing, stone concrete, cinder concrete reinforced concrete or other incombustible material acceptable to the Inspector of Buildings. Arches—materials for.
- 503** PAR. 12. Brick arches shall have a rise of not less than $1\frac{1}{4}$ inches for each foot of span between beams. They shall be not less than 4 inches thick for spans of 5 feet and shall be not less than 8 inches thick for spans over 5 feet. —brick; specifications for.
- 504** PAR. 13. Such arches shall be made of good, hard-burned brick of ordinary size, laid in a line on centres, each longitudinal line of brick breaking joints with the adjoining lines in the same ring and with the ring under it when more than 4 inches thick. —construction of.
- 505** PAR. 14. The brick shall be well wet and all joints shall be filled in solid with Port- —how laid.

land cement mortar. The arches shall be well grouted and properly keyed.

Clay or terra cotta arches.

PAR. 15. Burned clay or terra cotta flat arches shall not be less than 8 inches deep, and increased if the weight to be sustained requires it. The shells and webs of all hollow tile floor blocks shall not be less than 1 inch thickness.

506

Segmental arches.

PAR. 16. If the arches are segmental they shall have a rise of not less than $1\frac{1}{4}$ inches per foot of span, and the depth of the tile shall not be less than 6 inches. All depth of the tile shall not be less than 6 inches.

507

Skewbacks of tile arches.

PAR. 17. The skewbacks of tile arches shall be made to fit the beams with or without soffit tile, and to completely cover the lower flange of the beams not less than $1\frac{1}{2}$ inches thick, measured from the bottom of the beams.

508

Key block, joints, etc.

PAR. 18. The key block shall be in the centre of the span, the joints shall be radial, and they shall be solidly filled with Portland cement mortar as required for brick arches.

509

Blocks in arches.

PAR. 19. The hollow spaces in the blocks shall be so arranged that there shall be a cross rib for every 6 inches or fractional part thereof in the depth of the block. In side construction the skewbacks shall have a diagonal rib when the arch is more than 9 inches in depth. In end construction the blocks shall be laid so that all of the walls shall butt each other. The centering on which such arches are constructed shall not

510

Laying of.

511

be removed until the floor is strong enough to support the loads that may come upon it during construction.

- 512** PAR. 20. In buildings more than 100 feet high, terra cotta fire-proofing used in floor construction shall be semi-porous material. Terra cotta fire-proofing.
- 513** PAR. 21. Concrete arches and arches made of other material shall be subject to the same general requirements as those made of terra cotta fire-proofing in so far as the nature of the material will permit. Concrete arches.
- 514** PAR. 22. If made of concrete or other plastic material, the covering of the bottom flanges of the beam shall be reinforced and tied to the beams or anchored to the arches. Covering of bottom flanges of beam.
- 515** PAR. 23. Reinforced concrete in floor construction shall conform to all the requirements of this Article. Reinforced concrete.
- 516** PAR. 24. Slabs of such material shall be supported by the top flanges of the beams, or they shall be built into the beams to obtain a substantial bearing on the bottom flanges, to the satisfaction of the Inspector of Buildings. Slabs — supporting flanges.
- 517** PAR. 25. No arch or slab of concrete, reinforced concrete or other material shall be used in floor construction less than 4 inches thick. —thickness of
- 518** PAR. 26. Openings in floor arches or slabs for pipes, flues or ducts shall be shown on the plans, and no such opening shall be Plans to show openings in floor arches.

| | | |
|------------------------------|--|-----|
| Maximum openings. | made larger than 10 inches square, except the surrounding floor is properly supported. | 519 |
| Filling of. | PAR. 27. All such openings, except those made for ventilation, shall be filled in solid at each floor level after the pipes, etc., are in place. | 520 |
| Ceilings. | PAR. 28. All ceilings in fire-proof buildings shall be made entirely of incombustible material. | 521 |
| Ceilings under roofs. | PAR. 29. Ceilings under roofs may be made of light material only strong enough to carry the ceiling and heating, ventilating and plumbing pipes. If they are made stronger than this they shall be made as strong as required for the floor of an office building. | 522 |
| Level ceilings. | PAR. 30. If ceilings are made level they shall not be less than 1½ inches below the lowest beams; girders and exceptional beams may, however, project below such a ceiling level. Such projecting beams and girders shall be covered not less than 3 inches in thickness, measured from the bottom of the beam and from the edges of the flanges, with terra cotta fire-proofing substantially anchored or otherwise secured in place, or by a solid construction of reinforced cinder concrete or other approved fire-proofing. | 523 |
| —beams and girders of. | | 524 |
| —Suspended construction for. | PAR. 31. The level ceiling may be a suspended construction, but it shall be substantially constructed to the satisfaction of the Inspector of Buildings. | 525 |

- 526** PAR. 32. Girders and other beams projecting not more than 8 inches below a general ceiling level in buildings not over 100 feet high may be covered with metal lath and plastering only, but the metal lath shall be incorporated into the floor construction or otherwise substantially anchored to it. Nailing the lath in place shall not be allowable.
- 527** PAR. 33. Sleepers carrying wood flooring shall be laid over the floor arches or slabs and not imbedded in them. They shall be fastened to the steel beams and girders at every intersection when practicable.
- 528** PAR. 34. The entire unoccupied space between the top of the floor arch or slab and the flooring shall be filled with a cinder filling or other incombustible material equally satisfactory to the Inspector of Buildings. The cinder filling shall be made one part of cement with not more than eight parts of unscreened but well burned cinders.
- 529** PAR. 35. Floors in entrances, toilet rooms and public corridors of buildings over 100 feet high shall be finished with incombustible material.
- 530** PAR. 36. Wood sleepers and wood flooring shall not extend under any partition, except as provided for in this Article for partitions sub-dividing finished rooms.
- 531** PAR. 37. In general the construction of roofs in fire-proof buildings shall conform

Coverings of
ceilings —
metal
laths.

Sleepers for
wood floor-
ing.

Cinder filling,
etc., under
floor.

Floors in
entrances,
etc.

Wood sleep-
ers and
flooring —
when pro-
hibited.

Roof con-
struction.

to the requirements for the construction of floors in such buildings.

Roofs— materials for.

PAR. 38. Roofs of such buildings may, however, be made with blocks of terra cotta fire-proofing, concrete or other incombustible material laid in Portland cement mortar on tee bars.

532

—Beam and girder coverings for.

PAR. 39. In buildings over 100 feet high, all roof beams and girders shall be completely covered with terra cotta fire-proofing or concrete, as required in Section 22 of this Article for girders extending below the ceiling.

533

—when same may be uncovered.

PAR. 40. In buildings not over 100 feet high they may be uncovered if the top story has a ceiling of independent construction.

534

—finish of.

PAR. 41. All roofs in fire-proof buildings, except in temporary roofs, shall be finished entirely with incombustible materials. Both the materials and methods employed must be satisfactory to the Inspector of Buildings.

535

Roof structures.

PAR. 42. Skylights, scuttles, bulkheads, roof houses and other roof constructions on fire-proof buildings shall be made entirely of incombustible materials.

536

—walls for.

PAR. 43. Vertical walls in such construction shall be made of brick not less than 8 inches thick or reinforced concrete if over 4 feet high, or if of other incombustible material shall be covered with sheet metal.

537

- 538** PAR. 44. Roofs over such constructions must conform to the requirements for the main roof of the building. Roofs structures — roofs of.
- 539** PAR. 45. In buildings over 100 feet high the frames and sash for the exterior doors and windows, except below the second story on street fronts, shall be made of metal, or wood covered with metal, and glazed with wire glass. Exterior doors and windows.
- 540** PAR. 46. All partitions in fire-proof buildings, excepting partitions of a light character, as herein provided, shall be made of incombustible material, and such partitions shall rest directly on the arch or slab of which the floor is constructed. Partitions.
- 541** PAR. 47. Partition walls shall be substantially bonded or anchored to each other, or to the masonry walls or column covering at all angles or connections with each other. Partition walls.
- 542** PAR. 48. Ordinary wood frames, doors and sash and ordinary glass may be used in partitions in buildings not over 100 feet high, but no wood shall be used in such partitions except around and in openings. Millwork in partitions.
- 543** PAR. 49. In buildings over 100 feet high the partitions shall not be less than 2 inches thick, and shall be made of reinforced concrete, brick or porous terra cotta fire-proofing, laid in cement mortar or other non-combustible materials. Partitions in buildings over 100 ft.
- 544** PAR. 50. The rough frames for doors and windows in partitions in buildings over 100 Rough frames for doors and windows.

feet high shall be made of metal or wood, and the finished frames, including jambs and sills, the doors, the trim and the sash shall be made of metal or of wood covered with metal. No wood shall be used in construction of such partitions except as above specified in this section.

Metal frames.

PAR. 51. Metal frames extending to the floor or to the ceiling shall project into the construction of the floor or ceiling and shall be grouted in place with cement mortar.

545

Shafts of exterior columns.

PAR. 52. Every part of the shafts of exterior cast iron or steel columns in fire-proof buildings shall be covered with 4 inches of brick masonry, or if it is desired to finish the walls with other materials, there shall be 4 inches of brick masonry or 2 inches of grouted concrete adjoining the column. In any case the covering shall not be less than 4 inches thick. The inner side of such columns in the same way shall be covered with 4 inches of brick masonry bonded into the wall.

546

Coverings of.

PAR. 53. Spandrel beams shall be covered on the outside with 5 inches of brick or terra cotta masonry, or 2 inches of brick concrete grouting and 4 inches of other material; but the extreme outer edge of flanges, plates or angles may otherwise project to within 2 inches of the outside surface of the masonry. The inside of such spandrels shall be covered with terra cotta fire-proofing, concrete, or other incombustible material not less than 3 inches in thickness. The soffits of all spandrels over windows or other

547

Spandrel beams.

PAR. 53. Spandrel beams shall be covered on the outside with 5 inches of brick or terra cotta masonry, or 2 inches of brick concrete grouting and 4 inches of other material; but the extreme outer edge of flanges, plates or angles may otherwise project to within 2 inches of the outside surface of the masonry. The inside of such spandrels shall be covered with terra cotta fire-proofing, concrete, or other incombustible material not less than 3 inches in thickness. The soffits of all spandrels over windows or other

548

Inside covering of.

PAR. 53. Spandrel beams shall be covered on the outside with 5 inches of brick or terra cotta masonry, or 2 inches of brick concrete grouting and 4 inches of other material; but the extreme outer edge of flanges, plates or angles may otherwise project to within 2 inches of the outside surface of the masonry. The inside of such spandrels shall be covered with terra cotta fire-proofing, concrete, or other incombustible material not less than 3 inches in thickness. The soffits of all spandrels over windows or other

549

- openings shall likewise be covered with terra cotta fire-proofing concrete or other incombustible material, supported by the spandrel beams and anchored to them, or separate lintels made of angles or of other sections, or of other incombustible material held in place by the masonry walls may be used; but in any case the covering of the soffit or the spandrel shall be not less than 8 inches thick, measured from the bottom of the spandrel.
- 550** **PAR. 54.** The entire construction of metal columns and beams in exterior walls shall be made solid with Portland cement mortar grouted into all joints and spaces around the metal members.
- 551** **PAR. 55.** Interior columns shall be covered from the floor arch to the ceiling with terra cotta fire-proofing, concrete or other incombustible material not less than 3 inches thick.
- 552** **PAR. 56.** Brackets and lugs shall be covered by not less than $1\frac{1}{4}$ inches of this material.
- 553** **PAR. 57.** In buildings over 150 feet high the interior columns shall be covered in such manner as is described in the fifty-fourth paragraph of this section. The blocks shall be bonded and anchored into the backing sufficiently to secure a substantial construction.
- 554** **PAR. 58.** Furring in fire-proof buildings shall be made entirely of incombustible materials.

Thickness of
covering.

Metal columns
and beams in
in exterior
walls.

Interior
columns.

Brackets and
lugs.

Covering of

Furring.
columns.

Steel construction of roofs.

PAR. 59. The entire steel construction of roofs supported by trusses over large rooms may be uncovered if approved by the Inspector of Buildings; but no such roof framing shall be uncovered if the room is used for the sale or storage of materials.

556

Metal members below sidewalk.

PAR. 60. All metal members in stories wholly below the grade of the sidewalk shall be incorporated solidly into brick masonry or stone concrete, using cement mortar. All metal members in the foundation shall be completely encased in the concrete.

557

STEEL FRAME CONSTRUCTION.

SECTION 23.

Steel required.

PAR. 1. All parts of steel frame construction, except as otherwise specified in this section, shall be made of steel as specified for beams and columns in Section 18 of this Article.

558

Rivets, bolts, tie rods, etc.

PAR. 2. Rivets, bolts, tie rods and anchors shall be made of wrought iron as specified in Section 18 of this Article, or of steel, as specified for rivet steel in Section 18 hereof.

559

Column bases, etc.

PAR. 3. Column bases, separators, lintels over openings not more than 6 feet wide and wall plates shall be made of cast iron or steel.

560

Cast iron columns — when allowed.

PAR. 4. In buildings not over 100 feet high and having a width not less than one-third of its height, columns may be made of cast iron as specified in Section 17 of this

561

- 562** Article. Columns in any building which do not carry loads tributary from above the second floor may likewise be made of cast iron. When also allowed.
- 563** PAR. 5. Steel columns shall be made of single rolled sections or several such sections riveted together. Steel columns.
- 564** PAR. 6. No materials shall be used in such columns less than $\frac{1}{4}$ of an inch in thickness, except the lightest weights of 8-inch, 9-inch and 10-inch channels may be used. No materials shall be used in such columns that is not as thick as $\frac{1}{32}$ of its unsupported distance, measured between centres of rivets transversely, or $\frac{1}{16}$ of the distance between centres of rivets, measured in the direction of the stress. —Materials required for.
- 565** PAR. 7. No steel columns shall have an unsupported length greater than 120 times its least radius of gyration. —Maximum length of.
- 566** PAR. 8. Each section used to form the shaft of a steel column shall be continuous in one piece the entire length of the column if practicable. —Sections of.
- 567** PAR. 9. The ends of all such columns shall be faced to a plane surface at right angles to the axis of the columns, and lining or shimming between the ends of columns shall not be allowed. —ends of.
- 568** PAR. 10. Cap plates not less than $\frac{3}{4}$ of an inch thick shall be used between the ends of steel columns at all connections of column —cap plates for.

| | | |
|-------------------------------------|--|-----|
| Connections. | <p>to column. The connection shall be made by splice plates on two opposite sides and wherever possible by angle lugs on the intermediate sides. These splice plates shall be $\frac{3}{8}$-inch metal if the parts connected are less than $\frac{3}{4}$ of an inch thick, otherwise the splice plates shall be of $\frac{1}{2}$-inch metal. Each splice plate $\frac{3}{8}$ of an inch thick shall be connected to each column by not less than six rivets. Each splice plate $\frac{1}{2}$ of an inch thick shall be connected to each column by not less than eight rivets. If the thickness of the lower column between splice plates exceeds that of the upper column, the difference shall be made up with fillers one-half of the difference in thickness on each side. The splicing of columns shall be made within two feet of a lateral support.</p> | 569 |
| Thickness — how compensated for. | | 570 |
| Brackets for beams. | <p>PAR. 11. Every beam supported on the side of a steel column shall be carried on a bracket strong enough to support its greatest load or be bolted to side angles or lugs. If possible no bracket shall have less than four rivets in its connection to the column. If more than four rivets are required, vertical angles must be used in the connection to take the load. Every such beam shall be connected to the column securely.</p> | 571 |
| Riveting of brackets. | | 572 |
| Column and beam connections. | <p>PAR. 12. In buildings over 100 feet high beams connected to the sides of columns shall have, if possible, four rivets in the bottom flange and four rivets in the top flange.</p> | 573 |

- 574** PAR. 13. No cast-iron column shall be less than 5 inches in diameter or least lateral dimensions, and no metal shall be less than $\frac{3}{4}$ of an inch thick nor less than $\frac{1}{10}$ of the outside diameter of the column. Cast iron columns — diameters for.
- 575** PAR. 14. No cast-iron column shall have an unsupported length greater than sixty times its least radius of gyration. —unsupported length — maximum.
- 576** PAR. 15. The ends of all such columns shall be faced to a plane surface at right angles to the axis of the column. —facing of ends.
- 577** PAR. 16. Columns shall be connected to each other by not less than four $\frac{3}{4}$ -inch bolts in each connection. If the core of a column below a connection is larger than that above, the thickness of the metal in the top of the lower column shall be increased to make up the difference. This increased thickness shall be tapered down for a distance of not less than 6 inches from the end of the column. —connection of columns.
- 578** PAR. 16. Columns shall be connected to each other by not less than four $\frac{3}{4}$ -inch bolts in each connection. If the core of a column below a connection is larger than that above, the thickness of the metal in the top of the lower column shall be increased to make up the difference. This increased thickness shall be tapered down for a distance of not less than 6 inches from the end of the column. —thickness of
- 579** PAR. 17. Every beam supported on the side of a cast-iron column shall be carried on a bracket projecting out from the face of the column not less than 3 inches. The depth of the bracket shall be not less than twice its projection, and it shall be strong enough to carry the full load of the beam. —Brackets supporting beams.
- 580** PAR. 18. Beams shall have the following number of $\frac{3}{4}$ -inch bolts connecting the web Beam connecting bolts.

of the beam to a column lug:

| | | | |
|--------------|-------|-------|----------|
| 7-inch beams | | 1 | bolt. |
| 8 | " | | 2 bolts. |
| 9 | " | | 2 " |
| 10 | " | | 2 " |
| 12 | " | | 3 " |
| 15 | " | | 3 " |
| 18 | " | | 4 " |
| 20 | " | | 4 " |
| 24 | " | | 5 " |

Metal in
brackets,
lugs and
flanges.

The metal in brackets, lugs and flanges shall be not less than 1 inch thick and lugs and flanges shall be strengthened by fillets and $\frac{3}{4}$ -inch bracing ribs.

581

Bolt holes.

PAR. 19. All holes for bolts in cast-iron columns shall be drilled.

582

Inspection
holes.

PAR. 20. A $\frac{3}{8}$ -inch hole shall be drilled in either the cope or flask side of every cast-iron column, and another shall be drilled on one side or the other at right angles to it. The holes shall be for inspection and shall be near the middle of the column.

583

Test holes in
columns.

PAR. 21. If any cast-iron column is manufactured with the core in two pieces, two test holes shall be made likewise for one piece and two for the other. In such case the location of the holes shall be from 12 to 18 inches from the point of division between the cores, care being taken to avoid the anchors. The carrying capacity and maker's name shall be cast on every iron column.

584

Capacity, and
maker's
name.

585

- 586** PAR. 22. A reduction of 10 per cent. in sectional area of metal in one-half of the circumference of a column on account of the displacement of the core, or on account of blow holes or any other imperfection shall be sufficient cause for rejection. Rejection of columns.
- 587** PAR. 23. All columns shall be carried on bases made of cast iron or steel; when made of cast iron the columns carried on piers having not more than nine square feet of section shall have bases covering not less than seven square feet of the pier. Bases of columns.
- 588** PAR. 24. No part of a cast base shall be less than 1 inch thick. The section of the base immediately under the column shall not have less area of section than in the column carried by the base. The thickness of all parts shall be proportioned to the loads. The top of the separate base shall be planed at right angles to the vertical axis of the base, and not less than four drilled holes shall be provided for $\frac{3}{4}$ -inch bolts to connect to the column. —Require-
ments for.
- 589** PAR. 25. Substantial evidence of initial stress in cast bases shall be sufficient for their rejection. All cast bases shall be free from imperfections of material. Rejection of bases.
- 590** PAR. 26. All floor and roof beams shall be full weight, straight and free from defects. Floor and roof beams.
- 591** PAR. 27. When two beams or more are used together they shall have cast separators spaced not more than 5 feet apart. Sep- Beams in pairs.

arators for beams 12 inches or more in depth shall have two bolts; others shall have one bolt.

Angles for
connecting
beams.

PAR. 28. Angles for connecting beams to girders shall be not less than $\frac{3}{8}$ of an inch in thickness and secured with such number of rivets, and have such number of rivets as will be needed to meet the requirements of strength by this ordinance.

592

Openings in
floors.

PAR. 29. All openings in floor of buildings of steel frame construction shall be surrounded by beams framed into the other beams and girders to form an integral part of the floor construction.

593

Load deflection
for beams.

PAR. 30. No beam shall have a greater deflection under its full estimated load than $\frac{1}{30}$ of an inch per foot of span.

594

Rivets —
number and
sizes.

PAR. 31. The number of rivets used in any member shall not be less than required to take the stress in bearing and in shear, as specified in Section 18 of this Article, and they shall be arranged as symmetrically as possible about the centre line of stress. No rivets less than $1\frac{1}{2}$ inches in diameter shall be used with a grip greater than four times the diameter of the rivet.

595

Compression
members —
rivet specifi-
cations.

PAR. 32. The distance between rivet centres in compression members shall not be less than three times the diameter of the rivet, nor more than 6 inches or sixteen times the thickness of the thinnest outside plate in the line of stress. At the ends of compression members this distance shall not be greater than

596

four times the diameter of the rivet for a distance equal to $1\frac{1}{2}$ times the width of the member.

- 597** PAR. 33. The distance from rivet centres to rolled and sheared edges, except the flanges of beams, shall not be less than as follows: $\frac{1}{2}$ -inch rivets, $\frac{7}{8}$ inch on rolled edge, 1 inch on sheared edge.
 $\frac{5}{8}$ -inch rivets, 1 inch on rolled edge, $1\frac{1}{8}$ inches on sheared edge.
 $\frac{3}{4}$ -inch rivets, $1\frac{1}{8}$ inches on rolled edge, $1\frac{1}{4}$ inches on sheared edge.
 $\frac{7}{8}$ -inch rivets, $1\frac{1}{4}$ inches on rolled edge, $1\frac{1}{2}$ inches on sheared edge.
- 598** PAR. 34. The same distance shall not be more than 6 inches in any case.
- 599** PAR. 35. Rivets shall fill the holes completely, and shop rivets shall be power driven wherever possible.
- 600** PAR. 36. Except where cast iron is used, field connections shall be riveted. Shapes 3 inches or less carrying roof or ceiling construction, however, may be bolted, while shapes $1\frac{1}{2}$ inches or less used in ceiling or roof construction may be secured by steel clips, these clips to be subject to the approval of the Inspector of Buildings.
- 601** PAR. 37. Compression members requiring latticing shall have tie plates at each end and at intermediate points if the lattice is interrupted. End tie plates shall be as near the ends as practicable. In important mem-

Rolled and sheared edges —distance from rivet centers.

Maximum distances.

Fitting and driving of rivets.

Field connections.

Shapes, etc., bolting of.

Tie plates; when required.

| | | |
|-------------------------------|--|-----|
| Thickness of tie plates, etc. | bers the end tie plates shall be as long in the direction of stress as they are wide between rivet lines. No tie plates shall have less than four rivets. No lattice bar shall be less in thickness than $\frac{1}{4}$ of an inch. | 602 |
| Nuts and bolts. | PAR. 38. The nuts of all bolts shall turn up to a tight grip. Turned bolts in reamed holes shall be deemed a substitute for field rivets. | 603 |
| Tie rods. | PAR. 39. The tie rods shall be not less than $\frac{3}{4}$ of an inch in diameter and shall have nuts at both ends. | 604 |
| Flange areas. | PAR. 40. In riveted girders $\frac{1}{8}$ of the area of the web plate may be estimated as flange area. The compression flange shall have the same sectional area as the tension flange, but the unsupported length of the compression flange shall not exceed thirty times its width; in the tension flange only the actual net area of section shall be considered. | 605 |
| Stiffeners — when required. | PAR. 41. Stiffeners shall be provided for all supports and under concentrated loads. They shall form sufficient strength as a column to carry the loads, and shall be connected with a sufficient number of rivets to transmit the total stress into the web plate. Stiffeners shall fit the flanges tight at both ends. If the unsupported depth of the web plate exceeds sixty times its thickness, intermediate stiffeners shall be provided, and they shall be spaced not farther apart than the full depth of the girder, and no farther apart than 5 feet. | 606 |

- 607** PAR. 42. If splices are used, they shall fully make good the members spliced. Splices.
- 608** PAR. 43. Rivets in the flanges shall be spaced so that the least value of a rivet for either shear or bearing is equal to or greater than the increment of stress due to the distance between adjoining rivets. Rivets in flanges.
- 609** PAR. 44. The main members of trusses shall be designed so that the neutral axis of intersecting members shall meet at a common point. Their design shall be such that the stresses in each member can be calculated. Main members of trusses.
- 610** PAR. 45. Only the actual net area of section shall be used for tension members. In a tension member formed of angles, when only one flange is connected, the section of that flange only shall be counted for stress. Tension members.
- 611** PAR. 46. No tension bar shall be welded, except adjustable bars of wrought iron, or rivet steel may be welded in the loop. Steel eye-bars shall be annealed. Tension bars and steel eye bars.
- 612** PAR. 47. Eye and screw ends shall be proportioned so that fracture will take place in the body of the member if tested to destruction. Eye and screw ends.
- 613** PAR. 48. Bolts shall not be used in connections in trusses except when riveting is impracticable, and in such cases machine-turned bolts shall be used in reamed holes. Bolts — when allowable.

| | | |
|--|---|-----|
| Pins and pin plates. | PAR. 49. Pins shall be accurately turned. Pin plates shall be provided wherever necessary to reduce the stresses on pins. | 614 |
| Trusses. | PAR. 50. Trusses shall be held rigidly in position by efficient systems of lateral and sway bracing. | 615 |
| Members for resistance to wind pressure. | PAR. 51. All members in the steel frame designed for resistance to wind pressure shall be of riveted construction. When their connection to the column causes a bending in the column the metal of the column shall be disposed, and the connection shall be made so that the stress in the several members shall be as direct and as nearly in the same plane as possible. | 616 |
| Painting of cast iron columns. | PAR. 52. Cast iron columns shall not be painted until after inspection by the Inspector of Buildings. | 617 |
| —of steel in foundation walls. | PAR. 53. Steel required in foundations or foundation walls shall be painted one coat of paint in the mill or shop, or it shall have one coat of neat cement, mixed with water, immediately after delivery. | 618 |
| —of steel in superstructure. | PAR. 54. All steel material required in the superstructure of buildings shall have one coat of paint in the mill or shop. Riveted members with covered surfaces, surfaces in contact and surfaces enclosed, shall be painted before they are assembled. All loose scale or rust shall be removed with wire brushes before the first coat is applied. | 619 |
| Removal of scale or rust. | | 620 |

- 621** PAR. 55. All exposed surfaces, after erection, shall have a second coat of paint. Exposed surfaces.
- 622** PAR. 56. Painting shall be done on dry surfaces, and mud, grease, and dirt of every kind shall be removed before painting. Painting.
- 623** PAR. 57. Any building material, excepting concrete, adjoining any part of a steel frame construction shall be separated from it by a mortar joint not less than $\frac{3}{8}$ of an inch thick. Separation of building material.
- 624** PAR. 58. The working section of beams, columns or other important members shall not be cut or punched by other contractors after erection without the approval of the Inspector of Buildings. Working section of beams—punching, etc., prohibited.
- 625** PAR. 59. Sufficient temporary bracing shall be put in all stories to keep the steel frame plumb and securely braced in position while the riveting and mason work are in progress, and for as long thereafter as may be required by the Inspector of Buildings. Temporary bracing.

REINFORCED CONCRETE CONSTRUCTION.

SECTION 24.

- 626** PAR. 1. Portland cement and broken stone shall be used in all reinforced concrete work. Materials for.
- 627** PAR. 2. In beam, girder, floor and column construction the broken stone shall be Size of stone.

small enough to pass through a 1-inch ring, and the concrete shall be mixed in the proportion of one part of cement, two parts of sand and four parts of broken stone.

Steel to be
used; pro-
viso.

PAR. 3. High-grade steel may be used for reinforcing material, but shall be subject to the approval of the Inspector of Buildings.

628

—cross section
of.

PAR. 4. High-grade steel used in beams and girders shall have a cross section of not less than $\frac{1}{4}$ of a square inch, and shall not be less than $\frac{1}{4}$ of an inch thick at every point.

629

Corrugation —
when re-
quired.

PAR. 5. High-grade steel bars having an elastic limit of over 40,000 pounds per square inch of section shall be corrugated, or shall be otherwise conditioned to prevent the slipping of the bars in the concrete, to the satisfaction of the Inspector of Buildings.

630

Reinforcing
bars in ten-
sion.

PAR. 6. When used in tension the section of reinforcing bars shall not be greater than the section of round bars having a diameter equal to 1-150 of their length.

631

Raw materials
and making
of concrete.

PAR. 7. The raw materials and the making of the concrete shall conform to the requirements of Section 17 of this Article.

632

Concrete. —
how mixed.

PAR. 8. Concrete in reinforced concrete construction shall be mixed wet enough to make the material plastic.

633

634 PAR. 9. Any failure to comply with the provisions of this section shall be sufficient cause for the immediate stopping of all the work pertaining to the operation in question.

Requirements
hereof to
be complied
with.

635 PAR. 10. Reinforced concrete columns shall be reinforced with vertical steel bars, which shall be continuous and straight the entire length of the columns and one-half of the thickness of the supported floor. Each column shall have at least four lines of such reinforcement. In square columns they shall be placed at the corners. In any case the reinforcement shall be near the perimeter of the column.

Reinforcing
specifications.

636 PAR. 11. All such reinforcing bars shall be connected and prevented from spreading by ties made of wire, rods or bars, spaced not more than 12 inches, one above the other. Each set of such ties shall completely encircle the column.

Reinforcing
bars —
spreading of
to be pre-
vented.

637 PAR. 12. The concrete shall cover the reinforcing bars at all points at least 2 inches, and in calculating the strength of a reinforced concrete column this outside $1\frac{1}{2}$ inches of concrete shall not be counted as a part of the section of a column.

Covering of
bars.

638 PAR. 13. The construction of a reinforced concrete column in a building shall commence upon the top of a finished floor or girder construction, and shall continue without interruption to the under side of the floor or girders next above. The concrete shall be laid in horizontal layers not more

Work of con-
structing
column.

than the distance between binders, and each layer shall be thoroughly well tamped before the next one is put in place. The reinforcing bars shall be securely held in exact position while the concrete is being laid.

Position of
columns.

PAR. 14. Any column built above another and acting continuously with it shall not at any point overhang the lower one.

639

—to be plumb.

PAR. 15. All columns shall be plumb.

640

Length of
columns.

PAR. 16. No reinforced concrete column shall be longer in the clear than sixteen times its least outside dimension in cross section. Failure to comply with the provisions of this section shall be sufficient cause for the rejection of the column or columns in question.

641

Beams and
girders.

PAR. 17. Every beam and girder made of concrete shall be reinforced with wrought iron or steel bars to make it the required strength. The floor construction immediately adjoining may be considered to be a part of such a beam or girder and may be included in its calculation, provided that the part of floor taken shall not be wider than four times the width of the beam, and provided that the reinforcing metal in the floor construction shall cross the beams or girder in question at right angles or nearly so, as hereinafter in this section provided.

642

Floor con-
struction
may be part
of.

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Dimensions of
beams and
girders.

PAR. 18. The dimensions of such a beam or girder and its reinforcement shall be determined and fixed in such a way that the

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- 645 strength of the metal in tension shall measure the strength of the beam or girder. If the concrete in compression, including the allowable concrete in adjoining floor construction, does not afford sufficient strength for that purpose, the compression side of the beam or girder in question shall also be reinforced with metal. Reinforcement of compression side.
- 646 PAR. 19. A beam or girder carrying a concentrated load shall be reinforced with metal, if necessary, for shear. Reactions, if necessary, shall likewise be reinforced. Concentrated loads.
- 647 PAR. 20. Neither the reinforcing metal nor the concrete shall be subjected to combined stresses so as to exceed in combination the stresses allowable separately. Combined stresses to be provided for.
- 648 PAR. 21. Wherever possible, beams and girders and also their intermediate floor construction shall be made continuous. Reinforcing metal shall be used for that purpose in the top of all connecting members at the point of support and it shall be sufficient, both in section and length, to prevent fracture at the point of support when the connecting members are carrying twice their full calculated load. Beams and girders to be continuous.
- 649 Requirements.
- 650 PAR. 22. Reinforced concrete slabs, beams and girders shall be designed in accordance with the following assumption. Reinforced concrete slabs.
- 651 PAR. 23. The stress strain curve of concrete in compression is a straight line resulting in the following formula: Curve of stress strain.

$RM = .86dAsf$

where

RM = Moment of resistance of the beam and also bending moment.

d = Distance from extreme compressed fibre to centre of steel.

As = Area of steel in reinforcement.

f = Allowable stress in steel.

Beams and slabs freely supported, $BM = \frac{1}{8}WL$.

Beams and slabs built in or continuous at one support only, $BM = \frac{1}{9}WL$.

Beams and slabs built in or continuous at both supports where $BM = \frac{1}{10}WL$.

W = Total uniform load of beam or slab.

L = Span of beam or slab.

Reinforcing
bars.

PAR. 24. Reinforcing bars in beams and girders in both tension and compression shall be covered by at least $1\frac{1}{2}$ inches of concrete on all sides, and the centre of section of the bars used in reinforcing the intermediate floor slabs shall be at least $1\frac{1}{4}$ inches above the under side of the concrete floor slabs.

652

Supports of
slabs.

PAR. 25. If the width of such floor slabs is less than 75 per cent. of their length, they shall be constructed to be entirely supported on the two long sides of the slabs, and they shall be reinforced across the width of the slabs to carry the full dead and live load.

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Same.

PAR. 26. If the width of such floor slabs is 75 per cent. or more of their length they shall be constructed, if possible, to be supported on all four edges and shall be reinforced in both directions for that purpose.

654

655 PAR. 27. No floor slab shall, however, be less than 4 inches thick. Minimum thickness for floor slabs.

656 PAR. 28. The reinforcing metal in the bottom of a floor slab may be deflected to the top of the slab along the line of support, or separate reinforcing material may be used for the reinforcement in the top of the slab. In either case, however, if a part of the slab is considered as a part of the beam or girder, the reinforcing material used in the slab must cross the full width both of the beam or girder and the part of slab so considered. In all cases the rods, bars or strands of such reinforcement shall be not more than 10 inches apart. Reinforcing metal in floor slabs.

657 PAR. 29. The centering for the beams and girders of a floor shall be constructed in conjunction with the centering for the floor slabs which they support, and no centering shall be removed until all parts of the finished floor are strong enough to support themselves and the loads that may come upon them during construction. Centering for beams and girders of floors.

658 PAR. 30. The centering for beams and girders shall be constructed for a camber not less than $1/360$ of the span. —Camber of.

659 PAR. 31. The centering shall be strong enough to maintain its proper position after the concrete of the floor is laid. All parts shall be securely connected and the entire construction shall be thoroughly substantial. Intermediate supports shall be provided wherever necessary to prevent deflection, and they shall be maintained continu- Strengths of centering and floor supports.

ous through the lower stories to the foundation, or to other floors or girders which are old enough to afford the required support without injury to the construction.

*Placing of
metal.

PAR. 32. All reinforcing metal shall be placed and maintained in its exact position as shown on the drawings while the concrete is being put in place.

660

Bearing
surfaces.

PAR. 33. Bearing surfaces on top of columns or walls shall be cleaned and washed with a solution of cement before new concrete is laid upon such surfaces.

661

Roofs.

PAR. 34. The construction of roofs shall conform to the requirements for the construction of floors.

662

Failure to
conform
with re-
quirements.

PAR. 35. Failure to conform to any of the provisions of this section shall be sufficient cause for the rejection of all the beams, girders and slabs of the floor in question.

663

CONCRETE BLOCK CONSTRUCTION.

SECTION 25.

Where per-
missible.

PAR. 1. Concrete building blocks may be used for buildings six stories or less in height where said use is approved by the Inspector of Buildings, provided, however, that such blocks shall be composed of at least one (1) part of standard Portland cement and not to exceed three (3) parts clean, coarse, sharp sand or gravel and five (5) parts of crushed rock or other suitable aggregate.

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Components
required.

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- 666** PAR. 2. All material to be free from dirt and foreign matter. The material composing such blocks shall be properly mixed and manipulated, and the hollow space in such blocks shall not exceed the percentage given in the following table for different height walls, and in no case shall the walls or webs of the blocks be less in thickness than one-fourth of the height. The figures given in the table represent the percentage of such hollow spaces for different height walls.
- 667**
- | Stories | 1st. | 2nd. | 3rd. | 4th. | 5th. | 6th. |
|------------|------|------|------|------|------|------|
| 1 and 2... | 45 | 45 | | | | |
| 3 and 4... | 35 | 45 | 45 | 45 | | |
| 5 and 6... | 25 | 35 | 35 | 45 | 45 | 45 |
- 668**
- 669** PAR. 3. The thickness of walls for any building where concrete blocks are used shall be governed by the calculated crushing and tensile strength of said wall.
- 670** PAR. 4. Where the face only is of concrete building blocks and the backing is of brick, the facing of concrete blocks must be strongly bonded to the brick, with headers projecting four (4) inches into the brickwork, every fourth course being a header course. All walls where blocks are used shall be laid up in Portland cement mortar.
- 671**
- 672** PAR. 5. All concrete building blocks before being used in the construction of any building in the City of Baltimore shall have attained the age of at least four weeks.
- 673** PAR. 6. Wherever girders or beams and joists rest upon walls so that there is a con-

Materials for blocks.

Percentage of hollow spaces.

Table of.

Thickness of walls.

Facings of blocks.

Cement mortar to be used.

Aging of.

Beam and girder supports.

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| Solid blocks required at point of support. | <p>centrated load on the block of over two (2) tons, the block supporting the girders of joists must be made solid. Where such concentrated loads shall exceed five (5) tons, the blocks for two (2) courses below and for a distance extending at least eighteen inches each side of said girder shall be made solid.</p> | 674 |
| When entirely solid. | <p>Where the load on the wall from the girder exceeds five (5) tons the blocks for three (3) courses beneath it shall be made solid with a similar material as in blocks.</p> | 675 |
| Minimum crushing strength. | <p>PAR. 7. No blocks shall be used that have not an average crushing strength of fifteen hundred (1,500) pounds per square inch of area at the age of twenty-eight days.</p> | 676 |
| Piers and buttresses. | <p>PAR. 8. All piers and buttresses that support loads in excess of five tons shall be built of solid concrete blocks for such distance below as may be required by the Inspector of Buildings. Concrete lintels and sills shall be reinforced by iron or steel rods in a manner satisfactory to the Inspector of Buildings, and any lintels spanning over 4 feet 6 inches in the clear shall rest on solid concrete blocks or solid wall.</p> | 677 |
| Lintels and sills. | | 678 |
| Tests required. | <p>PAR. 9. Provided that no concrete building blocks shall be used in the construction of any building in the city of Baltimore unless that maker of said blocks has submitted his product to the full test required by the Inspector of Buildings, and placed on file in said Inspector of Buildings' office a certificate from a reliable testing laboratory showing that samples from the lot of blocks to be used have successfully passed the re-</p> | 679 |
| Certificate of. | | 680 |

quirements of the Inspector of Buildings,, and filing full copy of the test with the office.

- 681** PAR. 10. A brand or mark of identification must be impressed in or otherwise permanently attached to each block for the purpose of identification unless its particular shape sufficiently identifies it. Branding required.
- 682** PAR. 11. No certificate of approval shall be considered in force for more than four months unless there be filed with the Inspector of Buildings of the City of Baltimore at least every four months following a certificate from some reliable physical testing laboratory, showing that the average of three (3) specimens tested for compression and three (3) specimens tested for transverse strength comply with the requirements of the office of Inspector of Buildings of the City of Baltimore, samples to be selected either by the Inspector of Buildings or by the laboratory from blocks actually going into construction work. Time limit for certificates.
- 683** PAR. 12. The manufacturer and user of any such concrete blocks as are mentioned in this regulation, or either of them, shall at any and all times have made such tests of cement used in making such blocks, or such further tests of the completed blocks, or each of those, at their own expense and under the supervision of the Inspector of Buildings as he shall require. Tests to be made as required herein.
- 684** PAR. 13. The cement used in making said blocks shall be Portland cement, and must be capable of passing the minimum require- Cement to be used.

ments as set forth in the "Standard Specifications for Cement" by the American Society for Testing Materials.

Condemned
blocks.

PAR. 14. Any and all blocks, samples of which on being tested under the direction of the Inspector of Buildings fail to stand at twenty-eight (28) days the test required by this regulation, shall be marked "Condemned" by the manufacturer or user and shall be destroyed.

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Manufactur-
er's li-
cense.

PAR. 15. A license shall be granted to those intending manufacturing concrete blocks, said license to be revocable for the following causes:

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Causes for
which revo-
cable.

PAR. 16. Wilful violation of specifications, laws and ordinances.

687

PAR. 17. Dishonest methods.

Same.

PAR. 18. Use of improper materials, the quality of same, if in question, to be determined in a disinterested laboratory of recognized standing, but also subject to verification if desired by either party at issue.

688

SPECIFICATIONS GOVERNING METHODS OF TESTING HOLLOW BLOCKS AND MANUFACTURED STONE.

SECTION 26.

Application of
regulations.

PAR. 1. These regulations shall apply to all such new materials as are used in building construction in the same manner and for the same purposes as stone and brick

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authorized by the building laws, when said new material to be substituted departs from the general shapes and dimensions of ordinary building brick, and more particularly to that form of building material known as "concrete blocks," manufactured from cement and a certain addition of sand, crushed stone or similar material.

- | | | |
|-----|--|-------------------------|
| 690 | PAR. 2. Before any such material is used in buildings an application for its use and for a test of the same must be filed with the Inspector of Buildings. A description of the material and a brief outline of its manufacture and proportions of the materials used must be embodied in the application. | Applications for tests. |
| 691 | | Information required. |
| 692 | PAR. 3. The materials must be subject to the following tests: Transverse, Compression, Absorption, Freezing and Fire. Additional tests may be called for when in the judgment of the Inspector of Buildings the same may be necessary. All such tests must be made in some laboratory of recognized standing, under the supervision of the Inspector of Buildings. The tests will be made at the expense of the applicant. | Tests to be made. |
| 693 | | Where and how made. |
| 694 | PAR. 4. The results of these tests, whether satisfactory or not, must be placed on file in the office of the Inspector of Buildings. They shall be open to inspection upon application to the Inspector of Buildings, but need not necessarily be published. | Results of tests. |
| 695 | PAR. 5. For the purpose of the tests at least twenty (20) samples or test pieces must be provided. Such samples must represent the ordinary commercial output. | Samples. |

| | | |
|----------------------------------|--|------------|
| Selection of samples. | They may be selected from stock by the Inspector of Buildings or his representative, or may be made in his presence at his discretion. The samples must be of the regular size and shape used in construction. In cases where materials are made and used in special shapes and forms, too large for testing in the ordinary machines, smaller sized specimens shall be used as may be directed by the Inspector of Buildings to determine the physical characteristics specified in Section 25. | 696 |
| Special shapes. | | 697 |
| Testing of samples. | PAR. 6. Samples may be tested as soon as desired by the applicant, but in no case later than sixty (60) days after manufacture. | 698 |
| Weight. | PAR. 7. The weight per cubic foot of material must be determined. | 699 |
| Specifications for making tests. | PAR. 8. Tests shall be made in series of at least five, except that in the fire tests a series of two (four samples) are sufficient. Transverse tests shall be made on full sized samples. Half samples may be used for the crushing, freezing and fire tests. The remaining samples are kept in reserve in case unusual flaws are exceptional or abnormal conditions make it necessary to discard certain of the tests. All samples must be marked for identification and comparison. | 700 |
| Transverse tests. | PAR. 9. The transverse test shall be made as follows: The samples shall be placed flatwise on two rounded knife edge bearings set parallel 7 inches apart. A load is then piled on top, midway between the supports, and transmitted through a similar rounded | 701 |

- knife edge until the sample is ruptured. The modulus of rupture shall be determined by multiplying the total breaking load in pounds by twenty-one (three times the distance between the supports in inches), and then dividing the result thus obtained by twice the product of the width in inches by the square of the depth in inches.
- 702** Modulus of rupture.

$$R = \frac{3 W L}{2 b d^2}$$

Allowance shall be made in

figuring the modulus of rupture for the hollow spaces.

- 703** PAR. 10. The compression tests shall be made as follows: Samples must be cut from blocks so as to contain full web section. The samples must be carefully measured, then bedded flatwise in plaster of paris to secure
- 704** a uniform bearing in the testing machine and crushed. The total breaking load is then divided by the area in compression square inches. Deduction is to be made for hollow spaces.
- 705** PAR. 11. The absorption test must be made as follows: The block is first to be thoroughly dried, then weighed and the weight recorded.
- 706** PAR. 12. Then place the block in water to a depth of one-half inch, face downward. After being in the water for thirty minutes, weigh the block again and record the weight; then immerse again in water for four hours and weigh again; then immerse again for forty-eight hours and weigh.
- Compression tests.
- Method of computation.
- Absorption test.
- Water test.

Compression
test.

PAR. 13. As soon as the weight is taken, its compressive strength while still wet is then determined as provided for in the preceding paragraph.

707

Freezing test.

PAR. 14. The freezing test is made as follows: The sample is immersed as described in Section 25 for at least four hours and then weighed. It is then placed in a freezing mixture or a refrigerator, or otherwise subjected to a temperature of less than fifteen degrees F. for at least twelve hours. It is then removed and placed in water, where it must remain for at least one hour, the temperature of which is at least 150 degrees F. This operation is repeated ten (10) times, after which the sample is again weighed while still wet from the last thawing. Its crushing strength should then be determined as called for in Section 26:

708

Fire test.

PAR. 15. The fire test should be made as follows: Two samples are placed in a cold furnace in which the temperature is gradually raised to twelve hundred degrees F. The test piece must be subjected to this temperature for at least thirty minutes. One of the samples is then plunged into cold water (about fifty degrees to sixty degrees F.) and the results noted. The second sample is permitted to cool gradually in air and the results noted.

709

Require-
ments for
acceptance.

PAR. 16. The following requirements must be met to secure an acceptance of the materials: The modulus of rupture for concrete blocks at twenty-eight days old must average one hundred and fifty and must not

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- 711** fall below one hundred in any case. The ultimate compressive strength at twenty-eight days must average fifteen hundred pounds per square inch and must not fall below seven hundred in any case. The percentage of absorption (being the weight of water absorbed divided by the weight of the dry sample) must not average higher than seven per cent. and must not exceed ten per cent. in any case. The reduction of compressive strength must not be more than thirty-three and one-third per cent., except that when the lower figure is still above one thousand pounds per square inch the loss in strength may be neglected. The freezing and thawing process must not cause a loss in weight greater than ten per cent., nor a loss in strength of more than thirty-three and one-third per cent., except that when the lower figure is still above one thousand pounds per square inch the loss in strength may be neglected. The fire test must not cause the material to disintegrate.
- 712** As to compression strength.
- 713** Calculation of. PAR. 17. The approval of any material is given only under the following conditions:
- Conditions of approval.
- (a) A plant for the production of the material must be in full operation when the official tests are made.
- (b) The names of the firms or corporations and the responsible officers must be placed on file with the Inspector of Buildings and changes in same properly reported.
- 714** Repetition of tests. (c) The Inspector of Buildings may require full tests to be repeated on samples selected from the open market when in his

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| Laboratory tests. | <p>opinion there is any doubt as to whether the product is up to the standard of these regulations, and the manufacturer must submit to the Inspector of Buildings once in at least every four months a certificate of tests showing that the average resistance of three specimens to cross breaking and crushing are not below the requirements of these regulations. Such tests must be made by some laboratory of recognized standing, on samples selected either by the Inspector of Buildings or the laboratory from material actually going into construction and not ones furnished by the manufacturer.</p> | 715 |
| Result of tests. | <p>PAR. 18. In case the results of tests made under this condition (c) should show the standard of these regulations is not maintained, the approval of the Inspector of Buildings to the manufacture of said blocks</p> | 716 |
| Components required. | <p>will at once be suspended or revoked. Any concrete blocks submitted for tests shall be composed of cement, sand, crushed stone or other suitable aggregates, and shall contain no hydrate of lime, no water proofing of any kind and no coloring matter. It shall, however, be permissible to use these aggregates with the approval of the Inspector of Buildings, but they are not to figure in the tests.</p> | 717 |
| Drawings to show position and dimension of construction. | <p>PAR. 19. The exact position and dimension of all parts of a reinforced concrete construction shall be given in figures on the drawings of such construction filed with the Inspector of Buildings. The size of all reinforcing material and its exact position shall be shown and likewise given in figure.</p> | 718 |

- 719** PAR. 20. Reinforced concrete work shall be designed and constructed under the general direction and instruction of a civil engineer, and the work shall be under constant supervision of a competent superintendent. Supervision of
- 720** PAR. 21. The contractor must be prepared to make load tests in any portion of a reinforced concrete building in not less than thirty nor more than sixty days' time after completion, and as may be required by the Time for tests.
- 721** Inspector of Buildings. The tests must show that the construction will sustain a load equal to two and one-half times the calculated live load without signs of cracks. Safety factor.

SLOW BURNING BUILDINGS.

SECTION 27.

- 722** PAR. 1. The exterior and division walls and the piers of slow-burning buildings shall be made of brick, except that the exterior walls may be faced, whole or in part, with terra cotta or stone. Iron or steel may be Exterior walls of.
- 723** used except for the frames of openings. Walls of vent or light shafts, open at the top, shall be made of brick or other fireproof materials, approved by the Inspector of Buildings. All walls and piers shall be laid Openings in.
- 724** in cement mortar, or cement and lime mortar. Parapet walls and other walls above the roof line shall conform to the requirements for ordinary masonry buildings. No Mortar.
- 725** opening shall be made in party walls in slow-burning buildings without the approval of the Inspector of Buildings. Parapet and party walls.

- Beam areas.** PAR. 2. All wood beams and girders used in floor construction of slow-burning buildings shall have a sectional area of not less than 72 square inches, and no such beam or girder shall be less in depth or less in thickness than 8 inches. **726**
- Beam ends.** PAR. 3. The ends of all wood beams and girders resting on walls shall be cut shorter on top, so as not to be in wall on top edge more than $1\frac{1}{2}$ inches. **727**
- Anchors.** PAR. 4. Wood girders and beams shall be securely anchored to the walls. They must be supported on the walls in such manner that in case they were burned through they would release themselves without injury to the wall, and they must be so designed as to prevent the possibility of dry rotting. All anchoring must be self-releasing. **728**
- Floor thickness.** PAR. 5. Floor plank shall be not less than $3\frac{3}{4}$ inches thick or $2\frac{3}{4}$ inches thick covered with a dressed flooring $\frac{7}{8}$ of an inch thick, laid diagonally or crosswise. Two thicknesses of water-proof felt, or two of asbestos, or one of asbestos and one of waterproof felt, may be used under the $\frac{7}{8}$ of an inch thick dressed flooring, or the dressed flooring may be furred up from the plank with $1\frac{3}{4}$ -inch square strips, in which case the space between the strips shall be filled in with mineral wool, concrete or other incombustible material. **729**
- Painting.** PAR. 6. The bottom of the plank and all of the floor timbers shall remain uncovered and shall not be varnished or painted except with fire-retarding paint. **730**

- 731** PAR. 7. Wood posts in slow-burning buildings carrying a roof or one floor and a roof shall be not less than 8x8 inches in section. Post areas.
- 732** PAR. 8. Wood posts carrying two floors and a roof or more shall be not less than 10x10 inches in section. —same.
- 733** PAR. 9. All wood posts may have rounded corners, but they shall be uncovered, unvarnished and unpainted except with fire-retarding paint. —painting.
- 734** PAR. 10. Timber or iron caps and bases shall be provided for wood posts and pintles or cheek plates shall also be provided as required in Section 28 of this Article for wood posts in ordinary masonry buildings. —caps, bases, etc., for.
- 735** PAR. 11. The roofs of slow-burning buildings shall be comparatively flat and shall conform to the requirements of Section 19 of this Article for floors, except that wood beams and girders used in roof construction shall not be less than 8 inches thick. Roofs to be flat.
- 736** PAR. 12. The roof covering and the construction of skylights, bulkheads, etc., shall conform to the requirements for ordinary masonry buildings in Section 28 of this Article. Roof coverings.
- 737** PAR. 13. All partitions in slow-burning buildings shall be made of solid plank, matched, and not less than $2\frac{3}{4}$ inches thick, or entirely of incombustible material. Partitions.

Cellar parti-
tions.

PAR. 14. All the partitions in the cellar or the lowest story of every slow-burning building shall be made of incombustible material.

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Iron and
steel mem-
bers.

PAR. 15. Iron or steel columns or steel beams may be used in slow-burning buildings if required for strength, but when so used they shall conform to the provisions of Section 23 of this Article, and they shall be covered and protected according to the requirements of Section 22 of this Article, except that when wholly inside of the building they may be covered with metal lath and plaster, the lath to be substantially secured to metal bars or rods attached to the column or beam in question, and the finish of the plaster to be not less than 2 inches from the outside of the column or beam, with a 1-inch air space between them.

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Wall furring,
etc., prohib-
ited.

PAR. 16. There shall be no wall furring and no wood finish in slow-burning buildings, except the wood frames and trim of doors and windows.

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Floor supports
and party
walls.

PAR. 17. The interior floor supports and party walls of slow-burning buildings shall conform to the requirements for interior floor supports and party walls for ordinary masonry buildings in Section 28 of this Article, except that wherever wood posts extend through several stories, the upper posts must rest on top of an iron cap plate fitted over the post below. The cap plates must extend sufficiently beyond the upper part to afford ample bearing for the end of the girders.

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- 742** PAR. 18. No bolts or straps shall be used in slow-burning mill construction. Mill construction.
- 743** PAR. 19. The character of the materials required in the construction of slow-burning buildings and their allowable stresses. their foundations, their wall and roof construction, the cellars, vaults, sidewalks, steps and areas of such buildings, their chimneys, flues, fire-places, pipes, ducts and shafts, all heating appliances and gas outlets, the entrances, stairways, windows, skylights, floor lights, balconies and verandas; the elevators, fire-escapes, fire-proof shutters and fire appliances, and all plumbing, gas fitting, drainage and electric work in such buildings, shall conform to the requirements of this Article for such parts and features of construction. Character of materials and other construction requirements.
- 744** Elevators, etc., in.

ORDINARY MASONRY BUILDINGS.

SECTION 28.

- 745** PAR. 1. The exterior and division walls and piers of ordinary masonry buildings shall be made of brick, terra cotta, stone, concrete or reinforced concrete. Iron and steel may also be used in their construction, but this is not intended to prevent the use of wood frames, sash and doors with inside lintels and sills and sub-sills for same. Exterior walls.
- 746** PAR. 2. The use of hollow concrete blocks will be allowed in ordinary buildings, provided said blocks shall have been subjected to sufficient tests as to insure crushing strains as are required under this ordinance, and further provided that walls erected of such Concrete block construction.

blocks shall be anchored and bonded as approved by the Inspector of Buildings.

Vent and
light shaft
walls.

PAR. 3. Walls of vent and light shafts open at the top shall be made of brick, concrete or other fire-proof materials. Foundation walls, isolated piers, parapet walls and chimneys above the roof level shall be laid in cement mortar. This does not prohibit the use of lime mortar for outside faced work.

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Party and di-
vision walls.

PAR. 4. In buildings having comparatively flat roofs, all party walls and all division and fire-walls extending to the top of the building shall extend not less than 10 inches above the roof. In warehouses and in buildings used for manufacturing purposes, if walls extend more than 10 inches, there shall be a water-proof course provided at the roof line. The walls of all shafts shall extend not less than 3 feet above the roof.

748

—above roof.

749

—through
sloping
roofs.

PAR. 5. In buildings having sloping roofs all walls shall extend through the roofing materials, except if the roofing materials are all incombustible the tops of the walls, with the approval of the Inspector of Buildings, may be incorporated into the building materials without projecting through them so as to appear on the outside.

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Floor spans.

PAR. 6. No single span of floor construction in ordinary masonry buildings shall have the bearings more than 26 feet apart. If exterior walls are more than 26 feet apart, intermediate division walls shall be made

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as may be required to maintain a clear space of not more than 26 feet, or girders of iron, steel or reinforced concrete, carried on masonry walls, piers or columns or iron, steel or concrete may be used instead of the division walls.

- 752** PAR. 7. If the building is not more than three stories high, the posts and girders may be made of wood. Wood posts.
- 753** PAR. 8. Wood joists supported at the same level but on opposite sides of party walls shall be placed alternately, and not less than 4 inches of the wall shall separate the ends of such joists. Should the above be impracticable by reason of 9-inch party walls, all floor joists that cannot have such separation, and the 4-inch bearing as herein required, shall be put on longitudinally with the building. —joists.
- 754** Separation of joists.
- 755** PAR. 9. No wood beams or joists may be notched for gas, water or other pipes more than 2 inches in depth and not more than 24 inches from the bearings. Notching wood beams.
- 756** PAR. 10. Wood trimmings and header beams around openings shall be increased in thickness sufficiently to carry the required loads. Header beams.
- 757** PAR. 11. Framing of timbers for floors, roofs, etc., shall be done as follows: Floor timbers.
- 758** 1st — In all buildings requiring strength to carry over sixty pounds, or as specified in Section 19 of this ordinance, the trimmers —Framing of.

and headers shall be doubled or trebled to meet such requirements and the framing of timbers to be done with iron stirrups.

Floor timbers
—framing
of

2nd — Wherever said Section 19 names buildings to have a strength of sixty pounds or less, the framing may be done with mortise and tenon, but all framing timbers shall be arranged in thickness to meet required strength.

759

—notching
prohibited.

3rd — No notching or lapping to be done in any case.

760

—Bearings.

PAR. 12. No wooden joist shall have a bearing less than 4 inches in length.

761

—End shapes.

PAR. 13. The ends of all wood floor beams and joists resting on brick walls shall be cut diagonally so that the top surface shall not project more than 1½ inches into the wall.

762

—supports for.

PAR. 14. No floor beams or joists shall rest on stud partitions or other wood supports, except as provided in Section 27 of this Article in buildings not over three stories high.

763

—Cross bridg-
ing.

PAR. 15. All wood floor joists shall be substantially bridged with cross-bridging at intervals of not more than 6 feet.

764

—Supports
near flues,
etc.

PAR. 16. No wood beam or joist shall have a bearing or support nearer than 8 inches to the inside face of any smoke, air or other kind of flue, nor nearer than 2 inches to the outside of any chimney breast or flue wall.

765

—Distance
from flue
walls, etc.

PAR. 17. No wood beam or joist shall be nearer than 2 inches to the outside face of

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Section 28, Par. 11—17.

any flue wall. Wood beams or joists supporting masonry arches in front of fire-places shall be not nearer than 20 inches to the chimney breast.

- 767** PAR. 18. Wood beams used for the support of other beams or joists will be fastened to each other where they meet end to end by iron bars on both sides, or by some other connection equally substantial. Such bars
- 768** shall not be less than $\frac{3}{8} \times 1\frac{1}{2}$ inches in size and 18 inches long on each beam. They shall be substantially fastened to both timbers with 4-inch nails or iron bolts.
- 769** PAR. 19. The ends of such beams carried on walls shall be anchored to the walls with iron bars on each end of the beams. The bars shall not be less than $\frac{3}{8} \times 1\frac{1}{2}$ inches in size and 18 inches long on the beams outside
- 770** of the walls. Each anchor shall project into the wall to within 4 inches of the opposite side and shall be bent outwardly not less than 6 inches. Each anchor shall be connected
- 771** to the timber by means of a $\frac{3}{4}$ -inch hook formed by bending the end of the bar and one 4-inch nail driven through the bar about 2 inches from the hook. Anchors shall be placed near the bottom of the beams.
- 772** PAR. 20. The ends of wood beams or joists supported upon wood or iron girders shall be opposite each other, or they shall lap not less than 12 inches side by side. If opposite, they shall be connected by a board splice substantially nailed to each timber, or by iron ties not less than $\frac{1}{4} \times 1\frac{1}{2}$ inches, with $\frac{3}{4}$ hook at each end. If lapped, the joists shall be securely spiked to each other.

—Connecting
supporting
beams.

—Bars for.

Beam anchors
in walls.

—bearing in
walls.

—hooks for.

Beams on
girders, etc.

Joist anchors
in walls.

PAR. 21. At intervals of not more than 10 feet the ends of joists carried on walls shall be anchored to the wall with the same kind of anchors and in the same way as required in this section for anchoring wood beams used for the support of other beams or joists.

773

—Anchors to
be opposite.

PAR. 22. Joists on opposite sides of the building anchored in this way shall be opposite to each other, and shall be connected at intermediate points, as required in this section, for wood beams used for the support of other beams or joists, or by some other connection of equivalent strength. Joists under partitions shall be doubled or otherwise strengthened as may be necessary for the proper support of the partition, and if the partition crosses the joists the spacing of the joists shall be reduced if necessary to properly support the partition.

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Joists under
partitions.

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Bolts in tim-
ber framing.

PAR. 23. All bolts used in connection with timber framing shall be provided with washers large enough to reduce the compression in the wood under the washer, so that it shall not be greater than the allowable stress, supposing the bolt to be strained to its allowable limit.

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Post caps and
bases.

PAR. 24. Timber or iron caps and bases shall be provided for wood posts wherever necessary to maintain the limit of stresses as required by the provisions of Section 18 of this Article.

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- 778** PAR. 25. Pintles or check plates shall also be provided between caps and bases where required to properly transmit the loads. Pintles.
- 779** PAR. 26. The construction of all roofs of ordinary masonry buildings, comparatively flat or sloping not more than sixty degrees, shall be the same as required in Section 28 of this Article for floors. Roof construction.
- 780** PAR. 27. The roof beams or rafters shall be covered with plank not less than $\frac{7}{8}$ of an inch thick. The planking shall be covered with tiles, slate, sheet metal or such other fire-proof material as may have been tested and approved by the Inspector of Buildings. —Materials.
- 781** PAR. 28. Mansard or other roofs on front or rear buildings, having a slope of more than sixty degrees, shall be constructed with iron rafters covered or filled with brick, terra cotta fire-proofing or concrete, or such roofs shall be made of reinforced concrete. —Fire-proof requirements.
- 782** PAR. 29. After the passage of this Code no shingle roof shall be constructed or repaired with wood within the fire limits. —Shingle prohibited.
- 783** PAR. 30. The construction of the vertical walls of skylights and vertical walls and roofs of bulkheads, dormer windows or other like constructions on the roofs of ordinary masonry buildings shall be similar in character to the construction of the roofs. The vertical walls shall be finished on the outside with brick, concrete, tiles, slate, tin, copper or iron, and the roof shall be finished the same as the main roofs. —Walls, bulkheads, etc.

- Partition sup-
ports.** **PAR. 31.** All partitions in ordinary ma- **784**
sonry buildings shall have adequate support.
- Studding near
flues.** **PAR. 32.** No wood studding or other par- **785**
tition timber shall bear upon or be connected
to any wall or other partition nearer than 4
inches to the outside of any flue wall, nor shall
any such timber be placed within 2 inches of
the outside of any such wall.
- Cap plates.** **PAR. 33.** No stud partition shall be made **786**
without a cap plate the full thickness of the
partition and not less than 2 inches thick.
This plate shall be placed immediately un-
der the floor timbers and shall be attached
to them.
- Partitions on
joists.** **PAR. 34.** In dwellings, apartment houses **787**
and tenements no partition shall be carried
on joists more than 20 feet long, except such
a partition is continued in the lower stories,
or the joists in question receive intermediate
support from adjacent partitions or other
suitable construction.
- Across joists.** **PAR. 35.** In such buildings where parti- **788**
tions cross the joist construction directly over
each other, the studding timbers shall extend
down to the bottom of the joists and rest on
the top plate of the partition below.
- Walls to be
plastered.** **PAR. 36.** The surface of all walls and par- **789**
titions in ordinary masonry buildings shall
be plastered flush with the grounds, and
down to the floor line, and all trim and
wainscoating shall be put in place over the
plastering.

790 PAR. 37. The height of stories in ordinary masonry buildings shall not be more in the clear than the following: Story heights.

| | |
|--------------------|----------|
| Basement | 11 feet. |
| First story | 18 " |
| Second story | 15 " |
| Third story | 14 " |
| Fourth story | 14 " |
| Fifth story | 14 " . |

791 PAR. 38. This section is not to apply to buildings intended for public assemblage or where one hundred or more persons are assembled in any one room. —Exceptions.

792 PAR. 39. In consideration of incombustible material being used for walls instead of wood the requirements of this Article for ordinary masonry buildings may be modified with the approval of the Inspector of Buildings when such buildings are constructed in lieu of frame buildings outside of the fire limits. Modification of requirements.

793 PAR. 40. The character of the materials required in the construction of ordinary masonry buildings and their allowable stresses, their foundations, their wall and roof construction, the cellars, vaults, sidewalks, steps and areas of such buildings; their chimneys, flues, fire-places, pipes, ducts and shafts; all heating appliances and gas outlets; the entrances, stairways, windows, skylights, floorlights, balconies and verandas, the elevators, fire-escapes, fire-proof shutters and fire appliances, and all plumbing, gas fitting, drainage and electric work Character of materials and other construction appliances.

in such buildings shall conform to the requirements of this Article for such parts and features of construction.

WALL CONSTRUCTION.

SECTION 29.

Application of provisions.

PAR. 1. The provisions of this sub-division of this Article apply alike to the walls in fire-proof, slow-burning and ordinary masonry buildings, except as the text itself limits the application. Every such building shall be enclosed on all sides by party walls or walls built independently of adjoining buildings or walls.

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Walls exceeding requirements.

PAR. 2. Walls constructed prior to the date when this Article takes effect, which are thicker or stronger than required for new buildings, in accordance with the provisions of this Article, and in good condition, may be increased in height for additional stories, as approved by the Inspector of Buildings.

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Party walls of old design.

PAR. 3. Party walls constructed prior to said date, in accordance with the requirements of the then existing laws, but not in accordance with the requirements of this Article for new buildings, may be used, if in good condition, in the construction of new buildings to the extent for which they were originally designed.

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—Increasing height of.

PAR. 4. Existing party or independent walls may be increased in height and used when the wall as changed shall not comply

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with the requirements of this Article for new buildings, providing the foundations meet the requirements specified in this Article or are reinforced to meet them, and the thickness of the wall is increased so that the whole thickness of the wall shall not be less than 4 inches thicker than required by this Article in the construction of new buildings.

- 799** PAR. 5. In case it is desired to use an old wall, as provided in this section, the statement filed with the Inspector of Buildings shall set forth the exact conditions, together with the changes desired. In every such case the Inspector of Buildings shall cause an examination and written report to be made, and no permit shall be given for such construction unless the wall or walls in question are found, in his judgment, to be in good condition.
- 800** PAR. 6. When old walls are increased in height the top of the old wall shall be removed sufficiently to make a clean, strong bond with the new wall.
- 801** PAR. 7. Every lining to an old wall shall be not less than 9 inches in thickness. It shall be made of brick laid in cement mortar, it shall be anchored to the old wall with galvanized wrought iron or steel anchors, set into the walls in horizontal rows, and alternating vertically not more than 4 feet apart each way. All plaster and other foreign matter shall be cleaned from the old wall before the lining is constructed.
- 802**
- 803**
- Old walls;
use of.
- examination
of.
- increasing
height of.
- lining of.
- anchoring
lining.

Old walls
—loads on.

PAR. 8. Loads carried by the lining of a wall shall be made to bear both upon the old wall and the lining, if required by the Inspector of Buildings; and in any such case the old wall shall not be loaded more than allowable for new buildings.

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Party walls,
joint use of.

PAR. 9. If a party wall is only partially used by one of the adjoining premises, and if the person or persons owning the premises in question have no ownership in the wall more than what is used, they may use the remaining portion of the party wall, in whole or in part, provided that it shall be done in accordance with the provisions of this Article for new buildings, and provided that they reimburse the person or persons owning the other adjoining premises for one-half of the cost of the additional portion of the wall which shall be used; but in no case for more than one-half of the cost of such a wall as would be required under this Article at a fair valuation by disinterested parties at the time in question.

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—Cost of.

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—Repairing or
rebuilding.

PAR. 10. If an adjoining party wall used in the construction of a new building is not well constructed, or is not in good repair, it shall be strengthened, repaired or entirely rebuilt, and all damages to the adjoining building which is party to its use shall be made good by the person or persons causing the new building to be constructed, and at their expense and on their responsibility, regardless of the depth of the excavation or the size or height of the new buildings; provided, however, the person or persons

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- 808** causing the new building to be erected may —proviso.
arrange with the owner of the adjoining
building which is party to the use of the
wall in question for the strengthening, re-
pairing or rebuilding of the party wall in ac-
cordance with any conditions to which they
may agree.
- 809** PAR. 11. Where obstructions project beyond —projections
beyond.
the division wall or encroach upon adjoining
property, upon proper notice from the
Inspector of Buildings having been given,
they are to be removed within ten days from
service of such notice in writing, by the own-
er or owners of the building of which they
form a part, unless the time be extended by
the Inspector of Buildings.
- 810** PAR. 12. If it is desired to use an ad- —adding to or
enclosing.
joining party wall in the construction of a
larger or higher building than that for which
the wall was originally constructed, the per-
son or persons causing the new building to
be erected may, at their option, construct a
new wall adjoining, or partially or wholly
enclosing the party wall, entirely independent
of the adjoining property.
- 811** PAR. 13. In any case the strengthening, —permit for
strength-
ening.
repairing or rebuilding of the party wall or
the construction of an independent wall ad-
joining or enclosing the party wall shall be
done in accordance with the provisions of
this Article for new buildings, and permits
shall be obtained from the Inspector of
Buildings in the same way as for new build-
ings.

- examination of. PAR. 14. If the character of an adjoining party wall purposed to be used in the construction of a new building is questioned or an application for an official examination is made to the Inspector of Buildings, he shall cause an examination and a written report to be made. If the party wall is found to be in bad condition, the Inspector of Buildings shall determine what changes or repairs shall be made by the person or persons causing the new building to be erected; or, in his judgment, he may proceed as provided in Section 16 of this Article in case of dangerous buildings. **812**
- repair or removal of. **813**
- Fire walls. PAR. 15. All fire walls shall conform to the requirements of Section 29 of this Article for division walls. **814**
- not to be supported. PAR. 16. No fire wall shall be a supported wall, except in a fire-proof building. **815**
- to be continuous. PAR. 17. Every fire wall in a building which is not fire-proof shall be continuous from the foundations to the roof. **816**
- fire doors in. PAR. 18. All openings shall have fire doors made of wood covered with metal, two doors to each opening, one on each side of the wall. **817**
- Division walls. PAR. 19. Division walls shall be made of brick, stone or concrete; or, if they are supported walls in a fire-proof building, they may be made of porous terra cotta fire-proofing, in which case they shall be made in two separate walls laid in cement mortar, with or without a grouted filling of concrete between them. **818**

- 819** PAR. 20. Stone walls 24 inches or less in thickness shall have not less than one header extending through the wall every 3 feet in height, measuring from the bottom of the wall, and every 4 feet in length. Stone walls over 24 inches in thickness shall have not less than one header on each side of the wall for every 6 superficial feet of wall surface. These headers must run into the wall at least two-thirds the thickness of the wall and shall bond one on top of the other. All headers shall be not less than 18 inches in width and 6 inches in thickness, and shall be good, flat, square stones.
of headers.
- Stone walls,
headers in.
- 820** PAR. 21. All stones shall be laid on their own natural bed.
- laying stone
in.
- 821** PAR. 22. No stone shall be used that does not extend 6 inches into the wall. Stone walls shall be laid in cement mortar, and all spaces and joints shall be completely filled.
- size of
stones, mor-
tar, etc.
- 822** PAR. 23. Brick walls shall be well laid the whole thickness and solidly bonded together with close joints completely filled with mortar. They shall be built to a line, level and straight, and shall be carried up vertically with a plummet. Brick laid from April to November, inclusive, shall be wet before they are laid. Every sixth course shall be a header course, except where walls are faced with brick in running bond, in which case the face brick shall be bonded into the backing every sixth course by cutting the face brick and putting in diagonal headers, or by splitting the face brick and putting in a continuous row
- Brick walls.
- wetting
brick.
- bonding.

- bricks of different thickness.** PAR. 24. If the brick used in the backing and the face brick are not the same thickness, they shall be brought to a common level at intervals of not more than ten courses in height of the face brick, and the bond shall be made as specified. **825**
- metal clips prohibited.** PAR. 25. Metal clips for bonding face brick shall not be allowable. **826**
- Concrete walls.** PAR. 26. Concrete walls shall be built plumb and straight. The concrete shall be placed in forms made of wood or other material, constructed to required lines and dimensions. The concrete shall be put in place continuously without set vertically to the bottom of the next floor supports, and horizontally, if possible, to an opening. **827**
- continuing construction.** PAR. 27. When the construction of a wall is continued and new concrete is placed on material already set, all surfaces of contact shall be thoroughly cleaned and coated with a thick solution of neat cement. **828**
- vertical joints in material.** PAR. 28. Vertical joints between material already set and fresh material shall be made to bond on measurements both ways of not less than 10 inches. **829**
- horizontal joints.** PAR. 29. Horizontal joints between material already set and fresh material shall be reinforced by anchors or dowels of metal, brick or stone, set not less than 2 feet apart. **830**
- placing material.** PAR. 30. The full thickness of the wall at every point shall be put in place at the same time. **831**

- 832** PAR. 31. Foundations and retaining walls made of concrete shall be reinforced with metal, if necessary, to prevent lateral strains. —reinforcing of.
- 833** PAR. 32. The temporary forms used for the placing of concrete shall not be removed until the wall has become strong enough to carry the loads which will be put upon it during construction, and in no case less than four weeks. —removal of forms.
- 834** PAR. 3. Lintels, cornices and other elements of wall construction made of other materials or separately, shall be securely anchored in place with metal anchors. Such anchors shall be imbedded in the concrete when the concrete is put in place. —cornices, etc., to be anchored.
- 835** PAR. 34. Concrete shall be erected in horizontal layers not over 12 inches, and each layer shall be well tamped before the next layer is added; all reinforcing metal shall be firmly held in place during construction, and especially so while the tamping is being done. —tamping, reinforcing, etc.
- 836** PAR. 35. Reinforced concrete may be used in the place of brick and stone walls, in which cases the thickness may be two-thirds of that required for brick walls, provided the unit stresses as set forth in these sections are not exceeded. Concrete walls in such cases must be reinforced in both directions in a manner to meet the approval of the Inspector of Buildings, provided that this shall in no way conflict with Section 29 of this Article. —in place of brick or stone.
- 837** —reinforcing requirements.

| | | |
|------------------------------|---|-----|
| Concrete block construction. | PAR. 36. Walls made of solid concrete blocks shall conform to the requirements of Section 29 of this Article. In walls made of hollow concrete blocks the hollow spaces shall not be more than 40 per cent. of the thickness of the wall. The ribs in the blocks at the ends of the hollow spaces shall not be counted for compressive strength. The solid areas of walls made of hollow concrete blocks shall be continuous in walls of the same thickness. If the thickness of the wall is changed, the blocks of concrete immediately beneath the reduced thickness of wall shall be made solid. Concrete blocks carrying floor joists or beams shall be made solid or shall have a solid metal wall plate immediately under the joists or beams, approved by the Inspector of Buildings. Hollow blocks used in accordance with these requirements shall not be more than 12 inches deep, and they shall bond at all points not less than 8 inches. All such walls shall be laid in cement mortar, straight and plumb, and all joints shall be perfectly bedded. | 838 |
| —ribs in blocks. | | 839 |
| —blocks carrying beams. | | 840 |
| —block sizes. | | 841 |
| —concentrated loads on. | PAR. 37. If walls made of hollow concrete blocks are subjected to unusual concentrated loads, the walls shall be reinforced at such points by an additional thickness of wall by grouting the hollow spaces in the wall or by metal reinforcement. | 842 |
| Wall materials. | PAR. 38. No wall more than 45 feet high shall be built of materials which are not particularly described in this section, and no other materials shall be used in wall con- | 843 |

struction unless they are incombustible and otherwise in every respect satisfactory to the Inspector of Buildings.

- 844** PAR. 39. Walls over openings shall be carried on substantial arches or lintels made of stone, brick, terra cotta, concrete or metal, or of combinations of such materials. Walls over openings.
- 845** PAR. 40. Arches shall have sufficient abutments and shall be well built and well keyed. Lintels shall be of sufficient strength and have sufficient bearing at each end. For openings 6 feet in width or less the bearing at each end shall be not less than 5 inches. For each additional foot in width of opening the bearing at each end shall be increased not less than $\frac{1}{2}$ of an inch. Arches, lintels, etc.
- 846** PAR. 41. In ordinary masonry buildings wood lintels may be used on the inside of exterior walls over openings which are not more than 6 feet in width, provided suitable arches of the other material are turned over them, as provided in this section. Such lintels shall have a bearing of not more than 3 inches at each end. Wood lintels.
- 847** PAR. 42. Heavy masonry arches over openings shall be provided with iron tie rods to take up the thrust, if necessary. Arch tie rods.
- 848** PAR. 43. Cornices shall be made of stone, brick, terra cotta, concrete or metal, or combinations of such materials. Cornice materials.
- 849** PAR. 44. Cornices made of terra cotta or other incombustible material in compara- —Anchors.

- anchorages of steel. tively small pieces shall be supported and securely anchored to a structural framework of steel. Such a framework of steel shall be an integral part of the structure of the building, or it shall be partially imbedded and anchored to the wall in such a way that the centre of gravity of the cornice and of that part of the wall immediately adjoining the cornice, the two taken together, shall fall within the wall not less than 4 inches. **850**
- of sheet metal. PAR. 45. Sheet metal cornices shall be supported on metal lookouts built into the walls; the size of iron used for lookouts shall be not less than $3/16 \times 1\frac{1}{4}$, but they may be sheathed on top with wood. The centre of gravity of the cornice and of the wall immediately adjoining, the two taken together, shall also fall within the wall not less than 4 inches. **851**
- cantilever supports. PAR. 46. Dependence shall not be had upon the weight of the roof above the cornice for its support. In fire-proof buildings, however, the cornice may be supported from the roof by cantilever construction. **853**
- stone to balance in wall. PAR. 47. Large pieces of stone or other material used in cornice construction shall balance in the wall, and the construction as a whole shall have its centre of gravity 4 inches within the wall. **854**
- concrete in. PAR. 48. Projecting courses of concrete used in cornice construction shall be reinforced. **855**

- 856** PAR. 49. If the cornice extends above the roof line, the full thickness of the parapet wall shall extend to the top of the cornice. —above roof line.
- 857** PAR. 50. All walls projecting above roof lines, with or without cornice construction, shall be constructed strong enough to stand under ordinary conditions without bracing; but all such walls 6 feet or more in height above the roof line shall be braced with iron braces anchored in the wall to other walls or to roof construction. —walls above roof line.
- 858** PAR. 51. No woodwork shall be used in cornice construction, except in sheathing for metal cornices. —wood prohibited.
- 859** PAR. 52. New cornices constructed on old buildings in place of wooden cornices, removed or otherwise, shall be made to conform to the requirements of this section, except they may have wood lookouts. If a wooden cornice on an old building shall be not more than fifty per cent. destroyed, it may be rebuilt with wood as before. —new construction in old buildings.
- 860**
- 861** PAR. 53. The top of all walls and cornices shall be covered or finished with metal or with stone or other material, with close or protected joints laid in cement mortar. —top finish.
- 862** PAR. 54. Hollow walls shall be finished solid at the top, and shall be coped or covered on top of the solid finish the same as a solid wall. Hollow walls to have solid tops.
- 863** PAR. 55. The provisions of this section do not apply to supported walls in steel frame construction. Steel frames excepted.

Recesses for
elevators and
stairways.

PAR. 56. Recesses for stairways or elevators may be made in foundation and cellar walls and in the walls of the three lowest stories of a building, but no such wall shall be made of less thickness than the walls of the fourth story. The walls of a building may, however, be otherwise reduced in thickness for stairways and elevators, provided the wall on each side of the recess is reinforced with piers or metal columns built into the wall and the intermediate wall back of the recess is reinforced with steel beams or girders. All such construction, however, shall be subject to the approval of the Inspector of Buildings.

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—reinforce-
ment of
walls for.

865

—for alcoves,
etc.

PAR. 57. Single recesses in walls for alcoves and other purposes may be made not more than 8 feet wide. The wall immediately over such a recess shall be supported by an arch or lintel as required for an opening. The wall remaining behind such a recess shall be not less than 8 inches thick and not less than half the thickness of the regular wall.

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Vertical
chases.

PAR. 58. Vertical chases shall not be made in any wall or pier more than one-third of its thickness, and in no case to exceed 8 inches. Collars shall be placed around such pipes to allow for expansion and contraction.

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—filling around
pipes.

PAR. 59. After the pipes are put in position the chases shall be filled up with solid masonry at each floor level, through the thickness of the floor, and for not less than 12 inches above the top of the floor.

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- 870** PAR. 60. No horizontal chases of any kind more than 4 feet long or 4 inches deep shall be allowable without the approval of the Inspector of Buildings. Horizontal chases.
- 871** PAR. 61. When water-proofing made of asphalt or tar in any form is laid vertically in any retaining or foundation wall, the thickness of the wall on the outside of the water-proofing shall be the thickness otherwise required for the wall. Waterproofing.
- 872** PAR. 62. Water-proofing made of asphalt or tar, or other material, may be imbedded in a foundation or retaining wall without increasing its thickness, provided it is laid in sections alternately horizontal and vertical so as to afford a bond for the wall through the water-proofing. In such cases —in foundations, etc.
- 873** the horizontal surfaces covered by the water-proofing shall be not less than one-third the thickness of the wall, and the vertical surfaces not more than two-thirds the thickness. —surface required.
- 874** PAR. 63. Piers, buttresses and pilasters constructed for structural purposes shall conform to the general requirements for the construction of walls. Pier, etc., requirements.
- 875** PAR. 64. Isolated piers shall not be higher than ten times their least dimension. Single stone posts shall not be used to carry loads in the interior of a building. Pier and post proportions.
- 876** PAR. 65. Hollow walls of brick, stone or concrete shall be increased in thickness so that the horizontal area of actual wall shall be not less than required for solid walls. Hollow walls.

- ties for. PAR. 66. The parts of hollow walls shall be connected by ties of brick, stone, concrete or iron spaced not more than 24 inches apart. **877**
- Ashlar, thickness of. PAR. 67. Stone used for facing the wall of a building, ordinarily termed ashlar, shall be not less than 4 inches thick. **878**
- when counted as thickness. PAR. 68. If the ashlar has an average thickness of 6 inches or more, and a bond of not less than 8 inches into the backing at intervals in height of not more than 2 feet, it may be counted as part of the required thickness of the wall. Otherwise, ashlar shall not be counted as a part of the required thickness. **879**
- anchors and bonding. PAR. 69. All ashlar shall be substantially bonded or anchored into the backing. There shall be at least two anchors to each stone, and they shall project not less than 8 inches into the backing. **880**
- Facia of iron. PAR. 70. Iron facia over walls shall not be counted as a part of their required thickness. **881**
- anchoring for. PAR. 71. Iron facia shall be substantially anchored into the backing. **882**
- Furring, as thickness. PAR. 72. The inside 4 inches of a wall may be made of well-burned hollow brick; but hollow terra cotta fire-proofing or other furring material on the inside of a wall shall not be counted as a part of the required thickness of the wall. **883**

- 884** PAR. 73. In all fire-proof buildings the joint between the floor construction and the wall shall be made solid and furring may be carried on the floor. Floor and wall joists.
- 885** PAR. 74. In all non-fire-proof buildings, having an inside furring of wood or other material, the thickness of the solid wall shall be increased in line with the floor and for the full depth of the floor timbers to the inside face of the furring, and the furring shall be carried on the projection of the wall. Wall projection to carry furring.
- 886** PAR. 75. Terra cotta used for the outside facing of a wall shall be not less than 4 inches thick. It shall be bonded into the backing or substantially anchored to it. Terra cotta facings.
- 887** PAR. 76. The continuous thickness of such a facing of terra cotta shall not be counted as a part of the required thickness of the wall, unless every piece of such terra cotta is not less than 4 inches thick, and every alternating course is thick enough to afford a bond of not less than 4 inches with the body of the wall. —as thickness.
- 888** PAR. 77. All hollow spaces in terra cotta within the building line of the wall or in compression shall be filled with brickwork or other masonry. —hollow spaces in.
- 889** PAR. 78. All projecting courses of terra cotta shall be substantially anchored into the wall. —anchoring.
- 890** PAR. 79. All terra cotta carried by a steel frame or covering the members of such a —on steel frame.

construction shall be securely anchored to the adjoining beams or other parts of the structure.

—Anchor materials.

PAR. 80. Anchors for terra cotta shall be made of galvanized iron rods not less in section than $\frac{1}{4}$ of an inch diameter.

891

Bearings for beams, etc.

PAR. 81. Beams, girders or other concentrated loads carried on walls or piers shall have a sufficient bearing surface to properly distribute the load, or they shall bear on stone templates or iron wall plates of sufficient size to do so.

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—wall plate, etc., bearings.

PAR. 82. The ends of beams or girders in such cases shall be covered by not less than 4 inches of the wall material, and the wall plate shall be likewise covered by not less than 2 inches.

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—template, etc., thickness.

PAR. 83. The stone templates shall be not less than 4 inches thick, cast-iron wall plates shall not be less than $\frac{3}{4}$ of an inch thick, and steel wall plates shall be not less than $\frac{1}{2}$ of an inch thick.

894

—pilasters for thin walls.

PAR. 84. If walls are not thick enough to properly carry concentrated loads, when made in accordance with the provisions of Section 30 of this Article, they shall be made thicker as may be necessary, or structural pilasters may be constructed in the wall having sufficient size to afford the needed strength.

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—corbeled ledges for joists, etc.

PAR. 85. If walls are not thick enough to afford the proper bearing for joists or other

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wood beams without disadvantage to the wall, a ledge may be corbeled out from the face of the wall not more than one-quarter of the thickness of the wall, and not more than 4 inches for such support, but any such corbeled ledge shall be at least four times as deep as it projects from the face of the wall, and shall be continued around the ends of the beams or joists or between them to the level of the flooring.

897 PAR. 86. All corbeled projections shall be well bonded into the wall the entire depth of the projection. —bonding of ledges.

898 PAR. 87. Iron beams or girders carried on walls shall be anchored to the wall. The anchors shall consist of bars, rods or angles bolted to or otherwise secured to the beams. In any case the grip into the wall shall not be less than 8 inches for all beams over 6 inches in depth, and the projecting arm of the anchor shall be not less than 10 inches long. **899** Angles used as anchors shall not be less than $2\frac{1}{2} \times 5/16$ inches, and round bars shall not be less than $\frac{3}{4}$ inch in diameter. —anchors for beams, etc.

900 PAR. 88. Steel or cast-iron columns in walls shall be completely imbedded, or they shall be well bonded into the wall with projecting flanges, or they shall be anchored with one anchor for each 6 feet of clear height. Such anchors shall pass entirely around the column and project in both extensions of the wall not less than 12 inches. **901** They shall be made of flat bars not less than $3 \times \frac{1}{2}$ inches in size. —for columns.

—requirements for column anchors.

Bonding of
exterior, etc.,
walls to-
gether.

PAR. 89. The front, rear, side, division and party walls of a building shall be substantially bonded into each other, or they shall be anchored to each other, one anchor for every 6 feet in height. Wrought-iron or steel bars not less than $1\frac{1}{2} \times \frac{3}{8}$ inches in size shall be used for such anchors, and they shall project not less than 16 inches into the walls connected.

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903

Temporary
bracing.

PAR. 90. Temporary bracing shall be used during construction wherever necessary to make unfinished green walls safe and secure.

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Construction
precautions.

PAR. 91. No wall shall be constructed more than two stories in advance of any other wall in the same building, except it is done with the approval of the Inspector of Buildings. This shall not, however, apply to supported walls in steel frame construction.

905

THICKNESS OF WALLS.

SECTION 30.

Application
of provi-
sions.

PAR. 1. The provisions of Section 30 of this Article shall apply alike to walls in fire-proof, slow-burning and ordinary masonry buildings, except as the text itself limits the application.

906

Retaining
walls.

PAR. 2. The thickness of retaining walls shall be sufficient to secure the required strength.

907

—thickness of

PAR. 3. The thickness of ordinary stone or brick retaining walls at their base shall not be less than one-quarter of their height.

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- 909** PAR. 4. The first 12 feet in depth of foundation walls made of brick or concrete, measured from the highest adjoining curb levels, shall be 4 inches thicker than the walls immediately above, and each 10 feet or part thereof of greater depth shall have an additional increase of 4 inches in thickness. Foundation walls of brick, etc.
- 910** PAR. 5. Foundation walls made of stone shall not be less than 4 inches thicker than foundation walls made of brick or concrete. —of stone.
- 911** PAR. 6. If a dwelling is not more than 25 feet in width between walls and not more than 50 feet in depth, and the floors and roof are carried on the walls, and if such a dwelling is not more than two stories and a basement in height and not more than 30 feet in height, the exterior walls shall not be less than 9 inches in thickness. If the dwelling is more than 50 feet in depth the side walls shall be increased 4 inches in thickness for each additional 50 feet in depth, except if cross walls are constructed at intervals of not more than 50 feet, the thickness of the side walls may not be increased. Dwelling walls, 25x 50 ft.
- 912**
- 913** PAR. 7. If a dwelling is not more than 25 feet in width between walls and not more than 100 feet in depth, and the floors and roof are carried on the walls, and if such a dwelling is over 30 feet in height and not more than 50 feet in height, all the exterior walls shall not be less than 13 inches in thickness. —25x100 ft.
- 914**
- 915** PAR. 8. If such a dwelling is over 50 feet in height and not more than 60 feet in height, the exterior walls shall be not less —50 to 60 ft. high.

than 17 inches thick in the story above the foundation walls, and from thence not less than 13 inches to the top.

—60 to 75 ft. high. PAR. 9. If such a dwelling is over 60 feet in height and not more than 75 feet in height, the exterior walls shall be not less than 17 inches thick above the foundation walls to the height of 25 feet, or to the nearest tier of beams to that height, and from thence not less than 13 inches to the top. 916

—75 to 100 ft. high. PAR. 10. If such a dwelling is over 75 feet in height and not more than 100 feet in height, the exterior walls shall be not less than 21 inches thick above the foundation walls to the height of 40 feet, or to the nearest tier of beams to that height; thence not less than 17 inches thick to the height of 75 feet, or to the nearest tier of beams to that height, and thence not less than 13 inches thick to the top. 917

—at top. 918

—where floors and roofs carried on walls. PAR. 11. In all dwellings in which the floors and roof are carried on the walls and which are more than two stories high and more than 100 feet in depth, the side walls shall be made 4 inches thicker than otherwise required in this section, for each additional 100 feet in depth or part thereof, except if cross walls are constructed at intervals of not more than 100 feet the thickness of the side walls may not be increased. 919

—cross walls. 920

—increase for width over 25 feet. PAR. 12. In all dwellings in which the floors and roof are carried on the walls and which are more than 25 feet in width between walls, the exterior walls shall be made 921

- 922** 4 inches thicker than required in this section for dwellings not over 25 feet in width between walls; provided, however, if such dwellings are fire-proof and there is no floor carried by the walls having a span more than 25 feet wide, then the thickness of the walls may not be increased. —fire-proof walls.
- 923** PAR. 13. The thickness of the walls in tenements, apartment houses, lodging houses, hotels, dormitories, hospitals, asylums, convents, club houses, parish dwellings, schools, laboratories and studios shall be the same as required in Section 30 of this Article for dwellings in all cases in which the floors and roof are carried on the walls. Tenements, apartment houses, etc.
- 924** PAR. 14. If a warehouse is not more than 25 feet in width between walls and not more than 100 feet in depth the floors and roof are carried on the walls, and if such a warehouse is not more than three stories and a basement in height or more than 40 feet in height, the exterior walls shall not be less than 13 inches thick. Warehouses, 25 ft. wide, 40 ft. high.
- 925** PAR. 15. If such a warehouse is over 40 feet in height and not more than 60 feet in height, the exterior walls shall be not less than 17 inches thick above the foundation walls to the height of 40 feet, or to the nearest tier of beams to that height, and thence not less than 13 inches thick to the top. —60 ft. high.
- 926** PAR. 16. If such a warehouse is over 60 feet in height and not more than 75 feet in height, the exterior walls shall be not less than 21 inches thick above the foundation —60 to 75 ft. high.

- walls to the height of 25 feet, or to the nearest tier of beams to that height, and thence not less than 17 inches thick to the top; or the walls of the top story may be made 13 inches thick with piers not less than 25 inches wide and spaced not more than 18 feet from centre to centre. **927**
- at top.
- 75 to 100 ft. high. PAR. 17. If such a warehouse is over 75 feet in height and not more than 100 feet in height, the exterior walls shall be not less than 25 inches thick above the foundation walls to the height of 40 feet, or to the nearest tier of beams to that height; thence not less than 21 inches thick to the height of 75 feet, or to the nearest tier of beams to that height, and thence not less than 17 inches thick to the top; or the walls of the top story may be made 13 inches thick with piers not less than 25 inches wide and spaced not more than 18 feet from centre to centre. **928**
- at top. **929**
- where floors and roof carried on walls. PAR. 18. In all warehouses in which the floors and roof are carried on the walls and which are more than 100 feet in depth, the side walls, if required by the Inspector of Buildings, shall be made 4 inches thicker than otherwise required in this section for each additional 100 feet in depth or part thereof, except if cross walls are constructed at intervals of not more than 100 feet, the thickness of the side walls may not be increased. **930**
- Cross walls. **931**
- over 25 ft. wide. PAR. 19. In all warehouses in which the floors and roof are carried on the walls and which are more than 25 feet in width between walls, the exterior walls shall be made **932**

933 4 inches thicker than required in this section for warehouses not over 25 feet in width between walls; provided, however, if such warehouses are fire-proof and there is no floor carried by the walls having a span more than 25 feet wide, then the thickness of the walls may not be increased.

—fire-proof walls.

934 PAR. 20. The thickness of walls in

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|-------------------------|----------------------------|--|
| Armories, | Office Buildings, | Buildings to which warehouse requirements apply. |
| Breweries, | Police Stations, | |
| Churches, | Printing Houses, | |
| Cooperage Shops, | Public Assembly Buildings, | |
| Court Houses, | Pumping Stations, | |
| Factories, | Railroad Buildings, | |
| Foundries, | Refrigerating Houses, | |
| Jails, | Stables, | |
| Libraries, | Stores, | |
| Light and Power Houses, | Sugar Refineries, | |
| Machine Shops, | Theatres, | |
| Markets, | Wheelwright Shops, | |
| Museums, | | |
| Observatories, | | |

shall be the same as required in Section 30 of this Article for warehouses in all cases in which the floors and roof are carried on the walls.

935 PAR. 21. The minimum thickness of the walls in buildings other than those named in Section 30 of this Article shall be determined and fixed by the Inspector of Buildings.

Minimum thickness.

936 PAR. 22. The thickness of the walls in extensions to buildings may be made the same as required for independent buildings of the same height and other conditions.

Extension to buildings.

Exterior
walls—re-
duction of
thickness.

PAR. 23. If the floors and roof of a building not over 100 feet high are entirely supported by columns or columns and interior walls, and if the exterior walls are not carried on a structural frame, the thickness of the exterior walls may be 4 inches less than would be required if the floors were carried on the walls. No such wall shall be less than 13 inches thick.

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Division
walls—
thickness of.

PAR. 24. The thickness of a division wall used as a bearing wall shall be the same as required for the exterior walls in the same building, except if the height of the division wall is less than the height of the exterior wall then the thickness may be reduced as required for an exterior wall of a similar building the height of the division wall.

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—reduction
of.

PAR. 25. If the division wall is not used as a bearing wall its thickness may be reduced 4 inches, but no division wall shall be less than 9 inches in thickness.

940

—of terra
cotta.

PAR. 26. If a division wall is made of porous terra cotta fire-proofing it shall be not less than 10 inches thick.

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Supported
walls.

PAR. 27. The thickness of supported walls in steel frame or reinforced concrete construction shall be as follows: The first 75 feet of the uppermost height thereof, or to the nearest tier of beams to that measurement, shall be not less than 12 inches thick.

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—lower sec-
tions of.

PAR. 28. In every lower section of 60 feet, or to the nearest tier of beams to that measurement or part thereof, the thickness shall be increased 4 inches.

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- 944** PAR. 29. That portion of an exterior wall in a steel frame construction between two windows, one directly over the other, may be made not less than 9 inches thick when covered with a cast-iron facia. Otherwise at no point shall such walls be less than 13 inches thick. Wall between windows.
- 945** —minimum thickness.
- 946** PAR. 30. The thickness of the walls in oriel windows in ordinary masonry, slow-burning and fire-proof buildings, shall not be less than 9 inches when covered with an iron facia not less than $\frac{1}{4}$ of an inch in thickness. Such walls shall be not less than 13 inches thick when not covered with an iron facia. Oriel window walls.
- 947** —minimum thickness.
- 948** PAR. 31. No parapet wall shall be less than 13 inches in thickness, except parapets for 9-inch walls, and parapet walls not over 2 feet in height without cornice connection may be 9 inches thick. Parapet walls.
- 949** PAR. 32. The thickness of walls built of coursed stone with dressed level beds and vertical joints may be not less than three-quarters of that required to conform to the provisions of Section 30 of this Article. provided such construction is approved by the Inspector of Buildings except that no such wall shall be less than 13 inches in thickness. Coursed stone walls.
- 950** Minimum thickness.
- 951** PAR. 33. Walls finished with stone ashlar having an average thickness of 6 inches or more and a bond of not less than 8 inches into the backing at intervals in height of not more than 2 feet may be counted as part of the required thickness of wall. Otherwise ashlar shall not be counted as a part of the required thickness. Ashlar finish to count as thickness.
- 952** —proviso.

Sections between openings.

PAR. 34. Wall sections between openings shall be increased in thickness when necessary to carry the loads imposed upon them.

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Thickness to be uniform.

PAR. 35. The wall of any part or story of a building shall be constructed the required thickness continuously to the top of the joists or beams of the floor or roof construction immediately above the part or story in question.

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Bearing wall proportion.

PAR. 36. No bearing wall shall have a greater height than twenty-five times its thickness without a horizontal connection and support.

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Non-bearing wall proportion.

PAR. 37. No non-bearing wall shall have greater height than thirty-five times its thickness without a horizontal connection and support, nor a total height greater than sixty times its thickness.

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9-inch wall.

PAR. 38. No wall 9 inches thick shall have a length of more than 50 feet unless it is strengthened and supported laterally by cross walls, piers or buttresses, or by steel frame construction at points not more than 50 feet apart.

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Walls over 60 ft. long.

PAR. 39. Walls more than 60 feet in length shall be made of such thickness and strengthened to meet required stresses to be imposed, all to be approved by the Inspector of Buildings, but no such wall shall be less than 13 inches thick.

958

Partitions of terra cotta.

PAR. 40. No partition made of hollow terra cotta fire-proofing 6 inches or more in

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thickness shall be made more than 24 feet in height without a horizontal lateral connection, or without vertical iron stiffeners or cross wall connections spaced not more than 24 feet apart.

- 960** PAR. 4I. No partition made of hollow terra cotta fire-proofing 4 inches in thickness and less than 6 inches shall be more than 16 feet in height without a horizontal lateral connection, or without vertical iron stiffeners or cross wall connection spaced not more than 16 feet apart. No such partition shall have a total height more than 24 feet.
- stiffening requirements.
- 961**
- maximum height.

ROOF CONSTRUCTION.

SECTION 3I.

- 962** PAR. I. Bulkheads, tank-houses, elevator enclosures and roof houses covering machinery or other appliances required for the proper operation of a building may be constructed on roofs of buildings projecting above the limit for the heights of buildings as fixed by the provisions of Section 15 of this Article, provided such bulkheads, tank-houses, elevator enclosures and roof houses are not used for business purposes or storage, and their construction shall conform to the requirements of this Article.
- Bulkheads, roof houses, etc.
- 963**
- storage, etc., in, prohibited.
- 964** PAR. 2. All exits to roof through roof houses, bulkheads and scuttles shall open outwardly.
- exits through.
- 965** PAR. 3. All doors and door frames in such openings, and all scuttles and scuttle covers shall be made of metal or of wood covered with metal.
- doors, etc., to be metal.

| | | |
|--------------------------|---|-----|
| Roof construction. | PAR. 4. All roofs shall be constructed with slopes, valleys, gutters and downspouts to secure satisfactory drainage. | 966 |
| —metal leaders. | PAR. 5. Metal leaders shall be provided to conduct the water from the roof without injury to the construction of the buildings, its walls or its foundations. | 967 |
| Roof tanks. | PAR. 6. All tanks containing 500 gallons or more carried on floors or roofs of buildings shall be supported by beams, girders or trusses on walls as approved by the Inspector of Buildings. | 968 |
| —supports for. | PAR. 7. In all buildings except those of steel frame construction such supports shall be carried on bearing walls or piers or on columns, or by some other structural methods. | 969 |
| —strength of supports. | PAR. 8. In all cases the supports for such tanks shall have ample strength. | 970 |
| —discharge pipes. | PAR. 9. All such tanks shall be provided with a discharge pipe connected to the tank at or near the bottom, and so arranged that the contents can be easily discharged by firemen in case of necessity. | 971 |
| —covers for | PAR. 10. Wood covers for roof tanks shall be covered with metal. | 972 |
| Staging, etc., on roofs. | PAR. 11. No staging or stand shall be constructed upon the roof of any building unless the general permit for the construction of the building distinctly covers it or a special permit has been issued therefor. | 973 |

CHIMNEYS.**SECTION 32.**

- 974** PAR. 1. Chimneys in all buildings shall be made of brick, stone or concrete. All chimneys built of concrete or reinforced concrete shall have proper flue lining. Materials,
etc.
- 975** PAR. 2. Chimneys having walls less than 8 inches thick shall be lined on the inside with iron pipe or terra cotta flue lining, or other approved materials, set smooth on the inside from the bottom of the flue continuously to the top of the chimney. Such lining shall be built in place as the flues are constructed and the ends shall be made to fit together closely. The joint or space between the lining and the wall shall be made perfectly solid with cement mortar. Chimney
linings.
- 976** PAR. 3. No chimney shall be constructed with a flue having less than 64 square inches as the area of its minimum cross section. —minimum
area.
- 977** PAR. 4. Chimneys subject to excessive heat from steam boilers, smelting furnaces, etc., shall be lined with fire-brick for not less than 25 feet in height, measured from the bottom of the flue. —linings for
excessive
heat.
- 978** PAR. 5. The walls of chimneys carrying flues from furnaces, boilers, bakers' ovens, large cooking ranges, large laundry stoves, or having other connections of equal or greater requirements, shall be not less than 8 inches in thickness. —for fur-
naces, ovens,
etc.
- 979** PAR. 6. Walls of chimneys carrying flues from smelting furnaces and steam boilers, —for smelting
furnaces, etc.

or having other connections of equal or greater requirements shall be built double, with an air space in between.

- walls of PAR. 7. The thickness of all chimney walls shall be sufficient to meet all requirements of temperature, direct loading and wind pressure. **980**
- height above roofs. PAR. 8. Chimneys shall be constructed not less than 4 feet above flat roofs, and when required by the Inspector of Buildings not less than 2 feet above the peak of a pitched roof. **981**
- for foundries, etc. PAR. 9. Chimneys connecting to iron cupolas in foundries and other chimneys of which a similar service is required shall extend not less than 10 feet above the highest point of any roof within a radius of 50 feet. Such chimneys shall also be covered on top with a heavy wire netting. **982**
- top finish. PAR. 10. All chimneys shall be finished on top with single blocks of stone, terra cotta or concrete, or with cast-iron plates, except, however, the tops of chimneys in dwellings and stables not more than three stories in height may be topped out with not less than six courses of brick masonry carefully bonded together and laid in cement mortar. **983**
- wall joints, etc. PAR. 11. All chimney walls shall be neatly and carefully constructed, and the joints, both inside and out, must be struck smooth. **984**
- pargeting prohibited. PAR. 12. Pargeting mortar shall not be used on the inside of any chimney. **985**

- 986** PAR. 13. No chimney shall be built upon a wood support. —wood supports prohibited.
- 987** PAR. 14. Piers carrying chimneys shall be as large on all sides as the chimney from the foundation of the pier to the bottom of the chimney. —size of supporting piers.
- 988** PAR. 15. If the size of a chimney is increased above its footing, the overhanging part shall be substantially supported by beams, struts or arches made of cast-iron, steel or masonry. —overhang to be supported.
- 989** PAR. 16. A chimney may be partially supported by a corbelled shelf from the side of a wall; but the corbelling shall be twice as high as the projection. —corbelled supports for.

METAL SMOKESTACKS, FLUES AND PIPES.

SECTION 33.

- 990** PAR. 1. Smokestacks may be made of cast-iron or of steel plates not less than 3/16 of an inch in thickness. Smokestacks, materials for.
- 991** PAR. 2. If the heat is great enough to make the temperature of such stacks more than 200 degrees, the walls of the stack shall be made double, with an air space in between, or the stack shall be covered or enclosed with some other suitable incombustible material, subject to the approval of the Inspector of Buildings. —double walls.
- 992** PAR. 3. If the heat is great enough to make the temperature of such stacks more —fire-brick lining for.

- than 800 degrees, they shall be lined with fire-brick as high as may be necessary to maintain a temperature in the metal of the stack of not more than 800 degrees.
- foundations, etc. PAR. 4. All such stacks shall be carried on foundations proportioned to the loads, and they shall project at least 10 feet above the highest point of adjoining roofs. **993**
- anchors and guys. PAR. 5. If such stacks are made isolated, they shall be designed to resist all possible lateral strains by the use of substantial anchors to the exterior walls of a building or otherwise. **994**
- in non-fire-proof buildings. PAR. 6. If such stacks are made inside of a non-fire-proof building, they shall be entirely enclosed with a brick wall, which shall conform to the provisions of Section 29 of this Article. **995**
- Shafts for PAR. 7. The shaft between the stack and the enclosing wall in such buildings shall be roofed in with incombustible material, and no wood shall be used in any way inside of such a shaft. **996**
- in fire-proof buildings. PAR. 8. If such stacks are made inside of fire-proof buildings, they shall be enclosed by a hollow partition wall made of brick, terra cotta fire-proofing or concrete, and the space between the two parts of the partition wall shall be occupied and not less than 2 inches thick. Such partition walls shall be supported from floor to floor. **997**
- supports in fire-proof buildings. PAR. 9. Such stacks in fire-proof buildings may be made self-supporting the entire height, or may be supported from floors at **998**

intervals, but in either case the construction shall provide for all contingencies due to changes in temperature, and the stack shall be anchored to the construction of the building so that it can have no lateral movement.

999 PAR. 10. The shaft formed between the stack and the enclosing partition walls shall be roofed in with steel plates or other incombustible material. —shaft roofs.

1000 PAR. 11. Metal smoke flues connecting to the stacks or chimneys may be made of cast-iron or steel plates not less than 3/16 of an inch thick; but the walls of such flues shall be made double or shall be covered or enclosed with some other suitable incombustible material, as required in Section 31 of this Article for metal stacks. Smoke flues, materials for.

1001 PAR. 12. If such flues are made of brick or other incombustible material, they shall be lined with fire-brick. —linings.

1002 PAR. 13. All such flues, whether made of metal or of brick, shall be made smooth on the inside, and upon completion shall be left clean. —to be smooth inside.

1003 PAR. 14. No smoke pipe shall pass through a wood floor. No smoke pipe shall pass through the roof of a building unless such a pipe is protected by a galvanized iron ventilated thimble not less than 12 inches outside diameter and 8 inches inside diameter for stove pipes, and not less than 18 inches outside diameter and 12 inches inside diameter —protection through floors.

- chimblees through roofs, etc. for pipes connecting to furnaces or other places having similar hot fires. Such smoke pipe thimble shall extend from the under side of the ceiling or roof beams to at least 9 inches above the roof, and shall have openings for ventilation at the lower end, and also at the top of the guards above the roof. **1004**
- chimblees through partitions. PAR. 15. No smoke pipe shall pass through a lath and plaster partition unless it shall be guarded by galvanized iron ventilating thimbles at least 12 inches larger than the pipe in diameter, or by galvanized iron thimbles built into at least 9 inches of brickwork on all sides. **1005**
- protection of lathing, etc. PAR. 16. No wood casing, furring or lath shall be placed against or to cover any smoke pipe. No stove pipe shall be placed nearer than 9 inches to any lath, plaster partition or ceiling, or to any board partition or ceiling, or to any woodwork; likewise, no smoke pipe connecting a laundry stove, furnace or large cooking range shall be placed nearer than 15 inches; provided, however, if the metal pipes are well guarded by metal shields, stove pipes may be placed not nearer than 6 inches, and smoke pipes from laundry stoves, etc., not nearer than 9 inches. **1006**
- metal shields. **1007**
- Spark arresters. PAR. 17. Every owner or other person having charge of a chimney, smoke stack or smoke flue of any kind shall equip such chimney, smoke stack or smoke flue with a spark arrester on receipt of a notice from the Inspector of Buildings that such a spark arrester is required. In case he shall not **1008**

- 1009** comply with such an order within thirty days he shall be liable to a penalty of \$20.00, and \$10.00 additional for each and every day thereafter that the chimney, smoke stack or smoke flue in question is not equipped with a spark arrester. Penalty.
- 1010** PAR. 18. On the protest of any individual, and with the approval of the Mayor, the Inspector of Buildings may require a chimney, smoke stack or smoke flue of any kind lengthened or otherwise altered to prevent its being a nuisance to surrounding property, and every owner or person having charge of such a chimney, smoke stack or smoke flue shall make the alterations thereby required within thirty days or he shall be liable to a penalty of \$20.00, and \$10.00 additional for each and every day thereafter that such alterations are not made, except, in his judgment, the Inspector of Buildings may lengthen the period of thirty days if the conditions or circumstances are such that the alterations cannot be readily made in that time. Protests against chimneys, etc.
- 1011** Abatement of nuisance; penalty.

FIREPLACES, DUCTS, SHAFTS, ETC.

SECTION 34.

- 1012** PAR. 1. All fireplaces and chimney breasts constructed with mantels, whether intended for ordinary fireplace use or not, shall have trimmer arches to support the hearths. Trimmer arches to support hearths.
- 1013** PAR. 2. Such arches shall be at least 20 inches in width, measured from the face of the chimney breast, and shall be constructed of brick, stone, terra cotta fire-proofing or concrete. Specifications for.

- Length of
arches. PAR. 3. The length of a trimmer arch shall be not less than the width of the chimney breast. **1014**
- Wood centers. PAR. 4. Wood centres under trimmer arches shall be removed before plastering the ceiling underneath. **1015**
- Hearth, width
of. PAR. 5. If a heater is placed in a fireplace, then the hearth shall be the full width of the heater. **1016**
- Mantel's in
theatres. PAR. 6. All theatres in which fireplaces are placed shall have incombustible mantels. **1017**
- Wood mantels. PAR. 7. No wood mantel or other wood-work shall be exposed back of a fireboard; the iron work of the summer piece shall be placed against the brick or stonework of the fireplace. **1018**
- Firebacks. PAR. 8. The firebacks of all fireplaces shall be not less than 9 inches in thickness, of solid stone, brick or concrete masonry. **1019**
- Fireplaces. PAR. 9. All fireplaces shall be finished smooth on the inside. Pargeting mortar shall not be used on the inside of any fireplace. **1020**
- Open grates. PAR. 10. If an open grate is set in fireplace, the fireback shall be lined with fire-brick not less than 2 inches in thickness, or soapstone, terra cotta fire-proofing or cast-iron filled in solidly with incombustible material may be used in place of the fire-brick. **1021**
- Hot air pipes. PAR. 11. Hot-air pipes or flues in masonry walls shall be enclosed on all sides by the wall not less than 4 inches in thickness. **1022**

- 1023** PAR. 12. No hot-air pipe or flue shall be placed in a stud partition or in a wood enclosure, unless the walls of the pipe or flue shall be made double, with a $\frac{1}{2}$ inch air space between the walls and $1\frac{1}{2}$ inch air space between the outer walls and the woodwork; or if wood is used to only partially enclose the pipe, a metal shield may be used on those sides in place of the outer wall of the pipe. In either case the woodwork must be lined on the exposed sides with tin or other sheet metal, or the woodwork may be set further back and covered with 4 inches of brickwork, terra cotta fire-proofing or concrete.
- Pipes or flues in stud-partitions.
- metal shields for.
- Lining of woodwork.
- 1026** PAR. 13. All woodwork near flues shall be protected in like manner, except wood trim may be placed across the face of such pipes when the face of the pipe is covered with metal lath or plaster not less than 1 inch thick, and separated from the pipe by a 1 inch air space as herein required.
- Woodwork near flues.
- 1027** PAR. 14. All hot-air flues or pipes shall be made of tin or other sheet metal.
- Hot air pipes or flues.
- 1028** PAR. 15. Horizontal hot-air pipes shall be placed 6 inches below the floor beams or ceiling; but if the floor beams or ceiling are plastered or protected by a metal shield then the distance may be not less than 3 inches.
- Horizontal hot-air pipes, etc.
- 1029** PAR. 16. Shafts or other spaces constructed for the conducting of hot air shall be constructed entirely of incombustible materials.
- Shafts, etc., for hot air.

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| Ventilation flues or ducts. | PAR. 17. Vent flues or ducts for the removal of foul or vitiated air in which the temperature of the air cannot exceed that of the rooms shall be constructed of sheet iron or other incombustible material. Such ducts shall not be placed nearer than 1 inch to any woodwork, and such ducts shall be used for no other purpose. | 1030 |
| —Position of. | | 1031 |
| —Position of in school rooms. | PAR. 18. If such ducts are placed in a public school room they shall be covered on all exposed sides with metal lath and plastered with at least two heavy coats of mortar. In such cases there shall be at least $\frac{1}{2}$ inch air space between the wall of the duct and the lath and plaster, and no wood furring or other combustible material shall be placed nearer than 2 inches to the wall of the flue. | 1032 |
| —construction of. | | 1033 |
| High pressure steam heat- ing pipes. | PAR. 19. High pressure steam-heating pipes shall not be placed within 1 inch of any timber or woodwork unless the timber or woodwork is protected by a metal shield. | 1034 |
| —protection re- quirements for. | PAR. 20. All high pressure steam-heating pipes passing through floors and ceilings or lath and plastered partitions shall be protected by a metal tube 1 inch larger in diameter than the pipe, having a metal cap at the exposed end, and where they are run in a horizontal direction between a floor and ceiling a metal shield with asbestos backing shall be placed on the under side of the floor over them and on the sides of the wood beams running parallel with said pipe. | 1035 |
| —between floor and ceiling. | | 1036 |
| Wood boxes or casings. | PAR. 21. All wood boxes or casings enclosing high pressure steam-heating pipes, | 1037 |

and all wood covers to recesses in walls in which high pressure steam-heating pipes are placed shall be lined with metal.

- 1038** . PAR. 22. All steam and hot water pipe covering shall consist of incombustible materials only. Coverings of pipes.
- 1039** PAR. 23. Registers located over a brick furnace shall be supported by a brick or concrete shaft built up from the cover of the hot-air chamber. The shaft shall be lined with a metal pipe, and all wood beams shall be trimmed away not less than 4 inches from it. Registers over brick furnaces.
- 1040** —shaft linings.
- 1041** PAR. 24. If a register is placed on woodwork to connect with a metal pipe or duct, the end of said pipe or duct shall be flanged over on the woodwork under the register. —on woodwork.
- 1042** PAR. 25. All registers for hot-air furnaces placed on woodwork or on combustible floors shall have stone or iron borders firmly set in plaster of paris or gauged mortar. —protection requirements.
- 1043** PAR. 26. All register boxes shall be made of tinplate or galvanized iron with a flange on the top to fit the groove in the frame, and the register shall rest upon the flange. There shall be an open space of 2 inches wide on all sides of the register box extending from the under side of the border to and through the ceiling below. The said opening shall be fitted with a tight tin or galvanized iron casing, the upper end of which shall be turned under the frame. Register boxes.
- 1044** Surrounding spaces for.

Register boxes.
—open spaces. PAR. 27. If a register box is placed in the floor over a portable furnace, the open space on all sides of the register box shall be not less than 2 inches wide. **1045**

Register valves. PAR. 28. If only one register is connected with a furnace it shall have no valve. **1046**

HEATING APPLIANCES, GAS OUT-LETS AND DRYING ROOMS.

SECTION 35.

Boilers—
brick set. PAR. 1. A brick-set boiler shall not be supported on beams or floor construction made of wood or other combustible material. **1047**

Boilers—
portable. PAR. 2. A portable boiler may be supported on beams or floor construction made of wood or other combustible material, but

—floor cover-
ings for. in any such case the floor shall be protected by a covering not less than 4 inches thick of concrete or brick laid in cement mortar. **1048**

—area of cov-
erings. Such a covering shall be constructed upon a continuous sheet metal plate not less than 3/16 of an inch thick, having all joints substantially riveted and the edges turned up 4 inches on all sides. This floor covering shall extend under the whole of the fire box and ash pit of the boiler, and shall extend outwardly not less than 8 feet in front and not less than 4 feet on the other three sides. **1049**

Boilers—
heating. PAR. 3. All heating boilers shall be low pressure and in no case shall exceed fifteen pounds pressure. Any owner of a building containing such a boiler or any person having charge of such a building who shall **1050**

- 1052** cause or allow the pressure upon such a boiler to exceed fifteen pounds, or who shall make any attachment thereto for power purposes for the operation of machinery of any kind, shall be liable to a penalty of not more than \$100.00 for each violation of this requirement, and to an additional penalty of not more than \$10.00 for every day that such liability shall continue. Boilers—maximum pressure; penalty.
- 1053** PAR. 4. Should there be a power plant or boiler having over fifteen pounds pressure, from which it is desired to heat a building, a reducing valve must be attached in such manner as will prevent a pressure above fifteen pounds on any part of the heating appurtenances; failure to comply with this requirement shall subject the owner or operator to penalties in the same amount as specified in the next preceding paragraph. —reducing valves. for.
- 1054** PAR. 5. Hot-air furnaces, ovens, coffee roasters or other appliances in which similar fires are maintained, when supported on beams or other floor construction made of wood or other combustible material shall rest on a floor covering, as herein provided for portable boilers. —penalties.
- 1055** PAR. 6. The distance from the top of any boiler, furnace, oven, coffee roaster or other appliance in which similar fires are maintained, to a ceiling of wood or other combustible construction shall not be less than 2 feet. The under side of a sufficient portion of any such ceiling within 6 feet of such appliance shall be protected by two separate shields or ceilings made of plastering on Hot air furnaces, etc.—floor coverings under.
- 1056** PAR. 7. The distance from the top of any boiler, furnace, oven, coffee roaster or other appliance in which similar fires are maintained, to a ceiling of wood or other combustible construction shall not be less than 2 feet. The under side of a sufficient portion of any such ceiling within 6 feet of such appliance shall be protected by two separate shields or ceilings made of plastering on —clearances between ceiling.
- 1057** PAR. 8. The distance from the top of any boiler, furnace, oven, coffee roaster or other appliance in which similar fires are maintained, to a ceiling of wood or other combustible construction shall not be less than 2 feet. The under side of a sufficient portion of any such ceiling within 6 feet of such appliance shall be protected by two separate shields or ceilings made of plastering on —ceiling protection.

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| Boilers, etc., —ceiling clear- ances. | metal lath, one at least 2 inches lower than the other, all substantially constructed, or it shall be protected by a covering not less than 2 inches thick of porous terra cotta fire-proofing, brick or concrete supported with iron rods or bars and plastered on the under side. The distance from the top of a hot-air furnace to the ceiling shall be not less than 16 inches, provided proper shields are constructed as required by this paragraph. | 1058 |
| —near parti- tions. | PAR. 7. A partition made of wood or other combustible material shall not be placed within 8 feet of the front of any such boiler, furnace, oven, coffee roaster or other appliance in which similar fires are maintained, nor within 4 feet of the other three sides. If such a partition, however, is lined with metal to the height of at least 4 feet, it may be placed within 5 feet of the front and 2 feet of the other three sides. | 1059 |
| —near metal- lined parti- tions. | | 1060 |
| Cold air boxes. | PAR. 8. Cold-air boxes connecting to hot-air furnaces shall be made of metal, brick or other incombustible material. | 1061 |
| Partitions near ranges. | PAR. 9. Partitions made of wood or other combustible materials from 6 to 12 inches distant from a kitchen range shall be protected with a metal shield from the floor to a height of not less than 18 inches higher than the range. Such partitions within 6 inches of a kitchen range shall be cut away from the floor to a height not less than 3 feet above the range and 12 inches wider, and the space shall be filled in to the face of the partition with brick, terra cotta fire-proofing or concrete and plastered thereon. | 1062 |
| —Fire-proof- ing of. | | 1063 |

- 1064** PAR. 10. Ranges supported on beams or floor construction made of wood or other combustible material, without legs and having ash pans 3 inches or more above their base, shall rest upon a floor covering which shall conform to the requirements of Section 34 of this Article for portable boilers. Small ranges, such as are used in apartment houses,
- 1065** that have ash pans 3 inches or more above their base, shall rest upon a similar floor covering, except it may be not less than 2 inches thick. Such floor covering under ranges shall extend over the entire area of the floor covered by the range.
- 1066** PAR. 11. No range shall be placed against a furred wall in a non-fire-proof building.
- 1067** PAR. 12. Ceilings made of lath and plaster, wood or other combustible material over ranges in hotels and restaurants and over all large ranges, shall be protected by metal hoods with ventilating pipe placed at least 9 inches below the ceiling. Such ventilating pipes shall not be placed nearer than 9 inches to any construction made of lath and plaster, wood or other combustible material, unless such construction is protected with metal or other incombustible covering. No such ventilating pipe shall extend through a floor.
- 1068**
- 1069** PAR. 13. Laundry stoves, except such as are heated with gas, carried on floors made of wood or other combustible material, shall rest on a covering not less than 2 inches in thickness made of concrete or brick laid in

Ranges— on
wood, etc.

—floor cover-
ings for.

—furred walls.

Ceilings—
combustible;
protection of.

—ventilating
pipes.

Laundry
stoves.

cement mortar in a sheet-iron pan, and extending over an area not less than 24 inches larger on all sides than that of the stove.

Stoves—heating.

PAR. 14. All stoves for heating purposes resting on wood floors shall be properly supported on iron legs. All such stoves shall be placed 3 feet from any construction of lath and plaster, wood or other combustible material, unless such construction is well protected by a metal shield, with a 1 inch air space between metal and wall, and the metal secured to the wall by metal thimbles, in which case the distance may be reduced to 12 inches.

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—protection for.

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—metal shields for.

PAR. 15. A metal shield shall be placed under and 12 inches in front of the ash pan of every stove carried on a wood floor.

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Gas appliances—hose connections.

PAR. 16. All hose connections for gas appliances of any kind shall have a stop cock at source of supply to the hose; said stop cock to be kept closed when not in actual use. under the penalty herein provided for violations of this ordinance.

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Boilers, etc. — inspection of, and reports.

PAR. 17. Every heating boiler, hot-water boiler, hot-air furnace or other heating apparatus shall be inspected immediately after it has been erected, and a report of every such inspection shall be made and filed in the office of the Inspector of Buildings.

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—out of repair.

PAR. 18. If any heating boiler,, hot-water boiler, hot-air furnace or other heating ap-

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- paratus shall be defective or out of repair, or is suspected of being so, the Inspector of Buildings, or an inspector acting under his direction, shall inspect such heating boiler, hot-water boiler, hot-air furnace or other heating apparatus, and if, in his judgment, the defects or the repairs that are needed are such that the safety of the building or of other buildings is endangered, he shall notify the owner or the person in charge of the building in writing that the required changes or repairs are necessary, or he may condemn the apparatus in question and likewise direct that it shall be removed from the building.
- 1076**
- 1077** PAR. 19. If the owner or the person in charge of the building shall obstruct or in any way attempt to prevent the entrance of the Inspector of Buildings, or to in any way interfere with his inspection, he shall be liable to a penalty of not less than \$50.00 for every such offense.
- 1078** PAR. 20. If the owner or the person in charge of the building shall refuse to make the required repairs or to remove the apparatus in question as directed, or shall neglect to do so for more than thirty days, he shall be liable to a penalty of not less than \$50.00 for each offense, and for not less than \$5.00 per day for each day thereafter that such offense shall continue.
- 1079** PAR. 21. Gas brackets shall be placed not less than 30 inches below a ceiling or below woodwork, unless a protecting shield

Boilers etc.,
notice to
repair.

Inspections—
obstruction
of; penalty.

Repairs;
penalty.

Gas brackets.

intervenes, in which case the distance may be reduced to not less than 18 inches.

**Gas brackets—
folding.** PAR. 22. Swinging or folding gas brackets shall not be placed where they can swing against a stud partition or against woodwork. **1080**

—fixed brackets. PAR. 23. A fixed gas bracket, supported upon a lath and plaster partition or upon woodwork shall be not less than 5 inches in length, measured from the burner to the surface of the plaster or woodwork. **1081**

Gas lights. PAR. 24. Gas lights placed near window shades or curtains, or near any other similar combustible material, shall be protected by a proper shield. **1082**

**Finish of
walls and
ceilings.** PAR. 25. The walls, ceilings and partitions enclosing drying rooms, when not made of incombustible material, shall be finished with metal lath and plastered, or they shall be covered with metal, terra cotta fireproofing or other hard, incombustible material. **1083**

STREET CONNECTIONS, CURBS AND GUTTERS.

SECTION 36.

**Gas supply
pipes** PAR. 1. A stop cock shall be provided for every supply pipe used for a gas or steam connection to a new building. This shall be required of every building hereafter erected **1084**

Stop cocks. It shall also be required of all public buildings, warehouses and buildings used for manu- **1085**

facturing purposes already erected. Such stop cocks should be easily accessible, and so arranged that the supply can be readily shut off.

- 1086** PAR. 2. Every building hereafter erected to be used as a tenement, apartment house, lodging house, hotel, theatre, public building, warehouse or for manufacturing purposes which is provided with an electric service from a street conduit shall be equipped with a device by which the current can be turned off, and its position, design and construction shall be fixed by rules established by the Inspector of Buildings. Electric current—street cut-outs required.
- 1087** PAR. 3. Curbs and gutters, repaired or rebuilt in connection with the construction of buildings, shall be done in accordance with the rules and regulations of the office of the City Engineer. Curbs and gutters—re-pair, etc., of.
- 1088** PAR. 4. The entrances and stairways of theatres shall conform to the requirements of Section 43 of this Article. Theatres—entrances of and stairways
- 1089** PAR. 5. The entrances and stairways of tenements, apartment houses, lodging houses and hotels shall conform to the requirements of Section 45 of this Article. —requirements for in tenement, etc. of.
- 1090** PAR. 6. Every tenement, apartment house, lodging house and hotel having accommodations for more than one family, erected after the date from which this Article takes effect, shall be provided with not less than one entrance from the outside to the basement. Basement entrances.

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| Scuttle or bulkhead openings. | PAR. 7. All buildings having flat roofs or sloping not more than 20 degrees, and all buildings requiring fire-escapes, shall have scuttle or bulkhead openings to the roof. | 1091 |
| —stationary ladders for. | PAR. 8. Stationary ladders leading to the scuttle shall be provided for all scuttle openings; this not to apply to dwelling house. | 1092 |
| —stairs for. | PAR. 9. Stairs with guard rails leading to bulkheads shall be provided for all bulkhead openings. | 1093 |
| —exits for. | PAR. 10. Bulkhead exits shall be not less than 2 feet 6 inches wide in the clear, and scuttle openings shall be not less than 2 feet wide and 3 feet long. | 1094 |
| Roof exits. | PAR. 11. Roof exits shall also conform to the provisions of Section 31 of this Article. | 1095 |
| Entrances to warehouses, etc. | PAR. 12. The aggregate width of entrances to warehouses and buildings used for manufacturing purposes shall not be less than the aggregate width of the stairways required in the same buildings, and the doors in such entrances shall open outwardly. | 1096 |
| Stairways—number required. | PAR. 13. Every such non-fire-proof building having 3,500 square feet or more of floor area in any story above the first shall be provided with not less than two continuous lines of stairways reaching from the ground floor to the top story of the building. Every such building having 7,000 square feet of area or more on any such floor shall have one additional line of such stairways for every additional 5,000 square feet of area on any such floor. | 1097 |
| —additional stairways. | | 1098 |

- 1099** PAR. 14. Every such fire-proof building may have one less line of stairways than required in this section for non-fire-proof buildings, except that every warehouse and every building used for manufacturing purposes, fire-proof and non-fire-proof, shall have not less than one line of such stairways. Lines of stairways—in fire-proof buildings.
- 1100** —exception.
- 1101** PAR. 15. In every warehouse used solely for storage purposes, or for the storage of goods sold at wholesale, the required stairway shall be not less than 3 feet 6 inches wide. Stairways — widths in warehouses.
- 1102** PAR. 16. In every other warehouse and every building used for manufacturing purposes the required stairway shall be not less than 4 feet wide. —in other buildings.
- 1103** PAR. 17. The aggregate width of entrances to office buildings shall be not less than the aggregate width of the stairways required in the same buildings. —in office buildings.
- 1104** PAR. 18. Every office building having 7,000 square feet of floor area or more in any story above the first shall have two lines of stairways, each extending from the first to the top floors. For every 5,000 additional square feet of floor area in such buildings they shall be provided with one additional line of such stairways. —number of
- 1105** —additional stairways.
- 1106** PAR. 19. Every office building shall have at least one line of such stairways. —at least one required.
- 1107** PAR. 20. No such stairway shall be less than 3 feet 6 inches wide. In such buildings over six stories high the width of every stair- —minimum width of.

way shall be increased over the 3 feet 6 inches, not less than 2 inches for each additional story in height.

Stairs, etc., —
fire-proof re-
quirements.

PAR. 21. All stairs, stair landings, stairways and stair railings in fire-proof buildings shall be made of incombustible material, except that the hand-rail of stair railings may be made of wood.

1108

—when sup-
ported by
iron string-
ers.

PAR. 22. In stairs or stairways supported with iron stringers, solid iron plates, or iron plates having openings not more than 4 inches square, substantially secured to the iron frame-work of the stairs, shall be provided for the support of all steps and all landings which are finished with slate, marble or other stone.

1109

—hand rails
and railings
required.

PAR. 23. All stairs, stair landings, and stairways shall be provided with a hand-rail and all stairs, stair landings and stairways having one or more open sides, and all stairway openings, shall be provided and protected with a substantial railing.

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Stairways
around ele-
vator shafts.

PAR. 24. In every building where under the terms of this Article such construction is allowed, whenever a stairway shall hereafter be built around an elevator shaft or shafts, such elevator shafts and stairway shall be separated by fire-proof material. and such fire-proof partition shall extend three feet above the roof, and shall be covered by a skylight with metallic frames. The windows and doorways in such shafts shall conform to the requirements for elevator shafts.

1111

—shaft win-
dows.

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- 1113** PAR. 25. Two or more lines of stairways in any building shall be located at as great distance from each other as practicable. Stairways—
Distance be-
tween
- 1114** PAR. 26. One stairway in every warehouse and in every building used for manufacturing purposes over three stories high, shall be enclosed with fire walls, and all openings in such walls shall have metal frames. One fire-proof
shaft re-
quired.
- 1115** All doors and sash in such openings shall be made of metal or wood covered with metal, and all glass shall be wire glass in panes not more than 16 inches square. —doors and
sash in.
- 1116** PAR. 27. Every stairway enclosure shall be lighted and ventilated from the outside by a window at each floor. Where conditions render compliance with the provisions of this section impracticable, a fire-escape may —ventilation
of enclosures.
- 1117** be substituted for an enclosed stairway, with the approval of the Inspector of Buildings. —fire escapes
in lieu of
stairways.

WINDOWS, SKYLIGHTS AND FLOOR LIGHTS.

SECTION 37.

- 1118** PAR. 1. All buildings shall have suitable window areas. All buildings shall be so placed upon their respective sites, and their window construction shall be so arranged that the proper amount of natural light and ventilation shall be secured in all parts and subdivisions of such buildings, and for all the purposes of their occupation, all as may be determined by the Inspector of Buildings. Lighting and
ventilation
required.
- 1119** PAR. 2. All skylights shall have iron frames and sashes. Skylights.

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| Two-story houses— interior rooms of. | PAR. 3. In the construction of two-story houses, commonly known as flat backs, the interior room or rooms on the second floor, where not open to the air and light by direct access to areas or courts, shall be provided with skylights of an area not less than five per cent, of floor area of the room in which such skylight is located and arranged to provide proper ventilation as well as light. | 1120 |
| Skylights — glazing of | PAR. 4. All skylights over enclosed elevators, stairways and dumb waiters shall be glazed with glass not more than $\frac{1}{8}$ of an inch thick, and shall have strong wire nettings substantially supported from the metal frame of the skylight, one over the glass and one under it. Wired glass or other specially treated or prepared glass shall not be used in such skylights. | 1121 |
| —wired glass prohibited. | PAR. 5. All skylights, except those over enclosed elevators, stairways and dumb waiters, and except skylights over the stages of theatres, shall be glazed with glass not less than $\frac{1}{4}$ of an inch thick. Such skylights shall be made of wired glass, or they shall have a strong wire netting substantially supported from the metal frame of the skylight over the glass. | 1123 |
| —thickness of glass. | | 1124 |
| use of wired glass. | PAR. 6. Skylights in public buildings, over passageways or rooms of public resort, shall also have a wire netting substantially supported from the metal frame of the skylight, under the glass, if wired glass is not used in such skylights. | 1125 |
| Floorlights. —in public buildings. | PAR. 7. All openings in floors for the transmission of light to the floors below shall | 1126 |

be covered with floor lights constructed with metal frames.

- 1127** PAR. 8. The glass used in such lights shall not be less than $\frac{3}{4}$ of an inch in thickness. If pieces of glass are used measuring more than 16 inches in area, they shall be wired glass, or the floor lights shall have a wire netting substantially secured to the frame of the floor light underneath the glass. Floorlights—
requirements.
- 1128** PAR. 9. The frames of floor lights shall be made as strong as the floors in which they are placed. —frames of.
- 1129** PAR. 10. Oriel windows may project beyond the building line as allowed by the Board of Estimates. —Oriel win-
dows.
- 1130** PAR. 11. Oriel windows shall be substantially supported by cantilever or bracketed construction of fire-proof material. —supports for.
- 1131** PAR. 12. The floors and walls of bay and oriel windows shall not be constructed of materials which are not allowable in the construction of the adjoining floors and walls, but the walls may be constructed of iron framing covered with sheet metal. —floors of
bay and
oriel win-
dows.

BALCONIES, VERANDAS, ETC.

SECTION 38.

- 1132** PAR. I. No balcony, loggia, porch, veranda or stoop shall be constructed as a part of a fire-proof, ordinary masonry or slow-burning building without the approval of the Inspector of Buildings. Inspectors
must ap-
prove.

- Balconies, etc.,
to be in-
combustible. PAR. 2. Every balcony, loggia, porch, veranda or stoop constructed as a part of a fire-proof building shall be made entirely of incombustible materials. **1133**
- materials allowed in. PAR. 3. Balconies, loggias, porches, verandas and stoops erected as a part of ordinary masonry buildings, or of slow-burning buildings, may be made of wood, provided, that no wood shall enter into the construction of the exterior walls of such buildings on account of such balconies, loggias, porches, verandas and stoops. **1134**
- dimensions. PAR. 4. No such structure erected as a part of an ordinary masonry building, or of a slow-burning building, shall be more than 8 feet wide, exclusive of connecting steps or stairways, measured from the building line, or more than two stories high. They may be constructed entirely across the rear of connected buildings, provided they are open in front and the ends are enclosed with brick wall not less than 9 inches thick, carried above the roof, or, if there is no roof, carried not less than 10 feet above the floor, and coped as required for parapet walls. **1135**
- construction of. PAR. 5. The roofs of all such structures shall be covered with incombustible material, as required for the roofs of the buildings. **1136**
- roofs of. PAR. 6. The roofs of all such structures shall be covered with incombustible material, as required for the roofs of the buildings. **1137**

ELEVATORS.

SECTION 39.

- Permit required; penalty. PAR. 1. It shall be unlawful to commence the installation, alteration or repairs of any elevator or hoist of any kind where the cost of said installation, alteration or repairs shall amount to \$100.00 or more, without first obtaining a permit for the same as **1138**

- 1139** required by Sections 5 and 6 relating to applications and permits; in case of emergency repairs may be made, but the elevator contractor or owner must notify the Inspector of Buildings within forty-eight hours after said work is commenced. Emergency repairs.
- 1140** PAR. 2. At the completion of the work for which a permit has been issued, the permit must be returned to the Inspector of Buildings, as evidence of the completion thereof; the Inspector of Buildings shall then cause an inspection to be made of all parts of said elevator and machinery, and if found in accordance with the requirements of this Code, he shall issue a certificate stating that the elevator or hoist has been inspected and approved as in accordance with law. The certificate must be kept posted in a conspicuous place about the elevator to be readily seen, and no elevator or hoist can be operated without such a certificate. After an owner or lessee has properly posted a certificate, the proprietor of any premises will be responsible for the defacing or destroying said certificate and subject to a fine of at least \$10.00 per day for each and every day said certificate is so mutilated or destroyed that it cannot be read. Permit—return of.
- 1141** Inspection of work.
- 1142** Certificate of inspection.
- 1143** —posting of.
- 1144** PAR. 3. All certificates shall be posted as approved by the Inspector of Buildings. —posting requirements.
- 1145** PAR. 4. All owners or lessees of buildings having elevators or hoists already constructed will be required to report their elevator or hoist for register at the office of the Elevators and hoists to be reported for registration.

Inspector of Buildings within 30 days after the approval of this ordinance, the register to contain a full account and description of said elevator or hoist and date of installation; this register must be in a book especially prepared for this purpose.

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| Inspector to supervise. | PAR. 5. All elevators or hoists and mechanism in connection therewith shall be under the supervision of the Inspector of Buildings; it shall be the duty of the Inspector of Buildings to have made periodical examinations at least once in six months of every elevator or hoist by a practical elevator inspector, who shall make immediate report of such examinations; said report must fully state the conditions of machines, running gear, ropes, sheaves, safety and controlling appliances. If any elevator or hoist shall be found unfit for service or out of repair, the inspector shall order said repairs to be made at once, and if not promptly commenced, may order the stoppage of the elevator or hoist and revoke the permit for such elevator or hoist until complete repairs are made. Should the elevator or hoist be so much out of repair as to endanger life, the Inspector of Buildings shall order that it cease running until completely repaired and so certified by the inspector. Any failure to comply with such order shall subject the proprietor of said premises to a fine of from two hundred and fifty (\$250.00) dollars to five hundred (\$500.00) dollars. | 1146 |
| Periodical examination. | | 1147 |
| When out of repair. | | 1148 |
| When dangerous. | | 1149 |
| Penalty. | | 1150 |
| Styles of elevators covered. | PAR. 6. This ordinance is to refer to and cover the following styles of elevators: First—Passenger elevators. Second—Freight elevators. | 1151 |

Third—Combination freight and passenger elevators.

Fourth—Automatic elevators.

- 1152** PAR. 7. Elevators under the first class are to be used for passengers exclusively, and limited to carry one person to each 400 square inches of floor space in the car. First class.
- 1153** PAR. 8. Those of the second class are to be used exclusively for freight, and no one allowed to ride upon it other than the operator and the person handling the freight. Second class.
- 1154** PAR. 9. A combination elevator is one in which the car is so constructed that it may be used for either purpose, but no elevator of this kind shall be used to carry freight and passengers at the same trip. Combination elevators.
- 1155** PAR. 10. Automatic elevators can only be used in private residences or exclusively for private use in other buildings. Automatic elevators.
- 1156** PAR. 11. The safe carrying capacity of all freight elevators shall be posted in a conspicuous place on the car. Safe loads.
- 1157** PAR. 12. A wrought iron canopy shall cover every passenger and combination freight and passenger elevator of sufficient strength to guard against anything falling from above the car; the entire structure and machinery of elevators to be strong enough to not break or give way at four times the safe allowance; this safe allowance must be posted in the car, and also the number of people allowed in passenger or combination elevators, to ride at any one trip. Canopies for.
- 1158** PAR. 13. The safeties of passenger and combination elevators shall be so constructed as to stop the car in case of an overload or other emergency. Safeties.

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| Clearances at shaft bottoms. | PAR. 13. For all elevators having a speed exceeding 60 feet per minute a clear space of not less than 3 feet must be provided in the bottom of the shaft below the lowest landing. If depth of 3 feet cannot be obtained below the level of the floor, such depth may be secured by raising the level of the landing and the use of an incline. At the bottom of all elevator shafts there shall be placed substantial buffer springs. Between the top of cross-head of the car and the under side of the overhead grating, when the car is at its top landing, there shall be a space of not less than 3 feet, and for elevators of greater speed than 350 feet per minute the clearance shall not be less than 5 feet. For all elevators running at a speed not exceeding 60 feet per minute, no pit and buffer springs will be required. All counter-weights shall have their section strongly bolted together, and no open weights may be used. There shall be not less than 3 feet clearance between the top of counterweight and the under side of overhead beam when the car is resting on the bumpers. This does not apply to hand-power elevators. | 1159 |
| Buffer springs at bottoms. | | 1160 |
| Clearances at top. | | 1161 |
| Requirements when speed less than 60 ft. per minute. | | 1162 |
| Shaft enclosures. | PAR. 14. All elevator shafts must be enclosed from floor to ceiling. In non-fire-proof buildings the enclosures may be either solid partition of wood, the whole height of story or solid partition 6 feet high and balance of the height to ceiling of wire or grill work not less than 3/16 inch thickness and 1½ inch mesh. | 1163 |
| —materials for. | PAR. 15. In fire-proof buildings the enclosures must be of fire-resisting materials. | 1164 |

In all cases of enclosures there must be ample facilities for lighting the shaft.

- 1165** PAR. 16. All stairways coming in contact with an elevator shaft must have a fire-resisting partition separating the shaft from the stairs. Stairways at shafts.
- 1166** PAR. 17. Carriage elevators shall be enclosed or guarded as directed by the Inspector of Buildings. Carriage elevators.
- 1167** PAR. 18. All buildings with wood joists or floor supports must be provided at each floor opening with trap doors, of a thickness not less than $1\frac{1}{8}$ inch, hinged at floor and held open against the sides or back of elevator enclosure by a fusible link, which, in the event of fire, shall open and allow the doors to fall, closing the hatchway openings in the floor, and automatic trap doors may be used on elevators not exceeding a speed of 60 feet per minute. The entire under side of traps or flaps to be lined with tin properly lock-jointed, tin to extend over all edges and nailed on upper sides of traps and flaps. Trap doors—when required.
- 1168** PAR. 19. All passenger elevator cars must be entirely enclosed from floor to canopy, excepting only the door opening. Fire-proof requirements.
- 1169** PAR. 20. All combination elevators must be enclosed like a passenger car, except the front may be made to open when used as a freight elevator. Passenger cars.
- 1170** PAR. 21. Cars of freight elevators shall be enclosed on all sides, except towards loading platforms, to the height of 5 feet. Combination cars.
- 1171** PAR. 22. Freight cars shall be enclosed on all sides, except towards loading platforms, to the height of 5 feet. Freight cars.

- Partitions in shafts.** PAR. 22. In all fire-proof shafts the partitions shall extend 3 feet above the roof and be covered with a metal frame skylight. **1172**
- Divisions in batteries.** PAR. 23. Where there are more than one elevator in a battery the divisions between them need not be fire-proof. **1173**
- Doors of enclosures.** PAR. 24. The doors of enclosures of passenger elevators must not be wider than the opening of the car, and the door in all cases must be made to slide and the sheaves and track so adjusted as to prevent the door from jumping off the track. **1174**
- Fastenings of passenger cars.** PAR. 25. The fastenings of all passenger elevators must be arranged to operate from the inside of shafts only and no outside lock or latch used, except key used by the custodian at the lowest floor door only. **1175**
- Freight enclosure doors.** PAR. 26. Freight enclosure doors may be made to hinge or slide up and down, or have semi-automatic gates not less than 5 feet high; but where hinged gates are used there must be also a hinged guard rail inside next to elevator shaft. **1176**
- Enclosures of passenger cars.** PAR. 27. The enclosures of passenger cars must be solid to the height of $3\frac{1}{2}$ feet, above that they may be of grill work of not over $1\frac{1}{2}$ inch mesh, or enclosed with wire glass. **1177**
- Shaft window openings.** PAR. 28. All window openings to elevator shafts must be protected by metal guards, as directed by the Inspector of Buildings. **1178**

- 1179** PAR. 29. In all elevators, except hand power and dumb waiters, a metal grill or grating is to be placed immediately below the overhead sheaves and appliances at top of shaft to prevent anything from falling in case of an accident or breakage. Metal grill below sheaves.
- 1180.** PAR. 30. All elevators or hoists, except plunger elevators and sidewalk lifts and vehicle elevators, are to be provided with approved safety devices attached to the bottom platforms, and so arranged that said safety devices will grip the guide from the sides to prevent spreading the latter in case any cable should break or become detached. Drop safeties.
- 1181** All elevators hereafter erected or repaired, except dumb waiters and hand lifts or elevators used exclusively as freight elevators, shall also be provided with speed governor to operate the safeties in case cars exceed their fixed speeds. Speed governor.
- 1182** Every sidewalk elevator must have substantial guard that will prevent crushing a person between the platform and sidewalk doors. This does not apply to hand-power elevators. Sidewalk elevator guards.
- 1183** All safety cams must be fastened to shafts with keys and no set screws to be used. Cams to be keyed.
- 1184** PAR. 31. All parts of the appliances in or about the elevator hatchway shall be strongly constructed and suitable to sustain with safety a load four times the maximum lifting capacity. Safety factor.
- 1185** All hydraulic machines to be provided with automatic terminal stops on the machine and also on operating rope. Hydraulic terminal stops.
- 1186** PAR. 32. Worm-guard machines to be provided with automatic stop and slack cable shifters. Worm-guard machines.

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| Power machine requirements. | PAR. 33. All power machines must have two (2) lifting cables. All connections in every case are to be securely made. Counterbalance weights are to be secured in suitable frames to prevent any section of same from becoming detached or falling. All sheaves and drums must be made, if possible, not less than fifty-five times the diameter of the cable and properly grooved for the diameter of the cable used. | 1187 |
| Diameter of sheaves, etc. | | 1188 |
| Operators required. | PAR. 34. All elevators or hoists must be operated by a person not under eighteen years of age. Whenever any violation of this section occurs, proprietor or proprietors are responsible in the penalties named hereinafter; provided, however, that this section shall not apply to elevators in private residences or automatic elevators for private use. | 1189 |
| —except in private residences. | | 1190 |
| —knowledge of. | PAR. 35. He shall have knowledge of the operating parts of the machinery belonging to the elevator and shall understand their operation. | 1191 |
| —experience. | PAR. 36. He shall have at least ten days continuous experience in running an elevator under the instructions of a competent person. | 1192 |
| —storage in shafts prohibited. | PAR. 37. No explosives, inflammable or suffocating materials of any kind shall be stored in any elevator shaft, and the shaft must be kept free and clear for elevator car and machinery. | 1193 |
| —notices, etc., of weights, etc. | PAR. 38. All signs or posters used as notices as to safe weights and capacity of | 1194 |

Section 39, Par. 33—38.

elevators must be of uniform size and character, as directed by the Inspector of Buildings.

- 1195** PAR. 39. If required, the builder of any elevator must submit drawings or models of elevators or of any safety device before attaching or erecting same. —models, etc., of safety devices.
- 1196** PAR. 40. If any person desires to erect any elevator or hoist of any kind not herein provided for, they must first obtain permit, and all cars,, waiters, machinery, tackle, etc., must be submitted to the approval of the Inspector of Buildings, and all power to operate same must be under the supervision and direction of that officer. —permit required.
- 1197** PAR. 41. Anyone failing to comply with or in any way violating any parts of the sections of this ordinance shall be subject to a fine of fifty (\$50.00) dollars, and a further sum of ten (\$10.00) dollars a day for each and every day there is no such compliance, and all fines to be collectable as other fines are collected. Penalties.
- 1198** PAR. 42. All windows in fire-resisting enclosures shall be made of metal, glazed with wire glass. No light to be over 16 inches square. Metal windows in shafts.
- 1199** PAR. 43. All doors into such shafts shall have metal frames and metal doors, or made of wood covered with metal. Wired glass may be also used in such doors in lights not more than 16 inches square. Metal doors.
- 1200** PAR. 44. The bottom of every elevator shaft in ordinary masonry, slow-burning and Shaft pits.

- fire-proof buildings which does not extend to the lowest floor of the building shall be covered with a sunken enclosure forming a pit in the floor. The entire construction of this pit shall be made of incombustible material and shall completely close the opening in the floor. **1201**
- to be fire-proof.
- Guards, etc., to be closed. PAR. 45. In all cases the guards or gates of any elevator shall be kept closed when the elevator is not in actual use, under penalty of \$25.00 fine. **1202**
- Safety factors PAR. 46. All walls, beams, girders and columns used for the support of elevator sheaves or other elevator machinery shall be made strong enough to carry four times the estimated live and dead loads of the elevator and its machinery within the required factors of safety. **1203**
- of machinery, etc. PAR. 47. All parts of the machinery of the elevator and appurtenances thereof upon which the safety of the operation of the elevator depends shall be likewise proportioned. **1204**
- Drop safeties required. PAR. 48. Every passenger and combination elevator hereafter erected or altered in any building in the City of Baltimore shall be provided with a device to prevent the falling of the car in case of the failure or disarrangement of its machinery. **1205**
- Excessive speed to operate safety. PAR. 49. An increase of twenty-five percent. in the velocity of the car beyond its fixed normal speed shall operate the safety device. **1206**

- 1207** PAR. 50. In all elevators running 175 feet or more the power exerted by the device shall be proportional to the load, so that whether the load is much or little the car shall stop with a uniform reduction of speed in a total distance equivalent to the velocity attained, and this distance shall not be less than 8 feet for the maximum capacity of the device with the heaviest load the car can lift. —distance in which to operate.
- 1208** PAR. 51. The construction shall be such that the mechanism shall not be injured by the operation of the device, or even temporarily put out of service. All parts shall be placed in their normal position and condition when the car is released. —not to injure mechanism.
- 1209** PAR. 52. The gripping device for the guide rails shall have a running clearance of at least $\frac{1}{8}$ of an inch. Gripping device.
- 1210** PAR. 53. The inspection called for in this section shall be made under the regulation formulated by the Inspector of Buildings and shall include tests. The owner in question shall afford, at his own expense, the means necessary for such inspection and for such tests. Inspection.
- 1211** PAR. 54. Every owner or person managing or controlling an elevator who shall refuse to permit such inspection, or shall interfere with such inspection, shall be liable to a penalty of not less than \$25.00 nor more than \$100.00 for each and every day which the elevator in question shall be operated on and after the dates of such violation of the provisions of this section. —costs of.
- 1212** PAR. 54. Every owner or person managing or controlling an elevator who shall refuse to permit such inspection, or shall interfere with such inspection, shall be liable to a penalty of not less than \$25.00 nor more than \$100.00 for each and every day which the elevator in question shall be operated on and after the dates of such violation of the provisions of this section. Penalty for obstructing inspection.

- Additional penalties.** PAR. 55. Every owner or person managing or controlling an elevator who shall refuse to permit the inspection herein provided for, or shall interfere with such inspection, or shall fail to afford the means for such inspection, or who shall use an elevator after its use has been forbidden by an inspector, shall be liable to a penalty of not less than \$50.00 nor more than \$200.00 for each and every violation thereof. **1213**
- Air chamber tests.** PAR. 56. The test of an air chamber at the foot of an elevator shaft shall be made by dropping the elevator the entire height of the building with its maximum calculated live load. One such drop to be sufficient for a test. **1214**
- Corridor elevators prohibited.** PAR. 57. No elevator or hoist shall be constructed in any corridor or passageway in such manner that persons must pass through the vertical lines of the shaft in which the elevator or shaft runs. **1215**
- Caboose attachments prohibited.** PAR. 58. No caboose attachment or more than one compartment can be formed or used in any one elevator shaft. **1216**
- Appeals from decisions.** PAR. 59. Should the owner, trustee, lessee, contractor or any person or persons interested in any elevator or hoist, building or premises, object to an order or decision of the Inspector of Buildings regarding such elevator or hoist, they may appeal from such order, as provided in Section 10 of this Article. **1217**

FIRE ESCAPES.

SECTION 40.

- 1218** PAR. 1. Every building more than two stories high used as a hotel, office building, lodging house, apartment house, tenement or for manufacturing purposes, and every dwelling having more than fifteen bedrooms above the first story, shall have one or more fire-escapes, as the Inspector of Buildings shall direct. Buildings requiring.
- 1219** PAR. 2. Every hotel or lodging house having accommodations for more than one hundred people and more than three stories high shall have at least two outside fire-escapes. Hotels, etc., requiring.
- 1220** Every such building having accommodations for more than four hundred people shall have at least three outside fire-escapes. —requiring at least three.
- 1221** PAR. 3. Every apartment and tenement house more than three stories high, having apartments for two or more families on one floor, shall have a fire-escape for each vertical series of such apartments. Tenements, etc., number required.
- 1222** PAR. 4. Any building in the City of Baltimore shall have an outside fire-escape if it shall be required by the Inspector of Buildings. —other buildings.
- 1223** PAR. 5. The Inspector of Buildings shall notify the owners or occupants of the buildings erected prior to the date upon which this Article takes effect upon which outside fire-escapes should be constructed in accordance with the provisions of this Article, and the notice shall state in each case what is Notice to owners to erect.

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| —time limit. | required. The requirements of this Article in relation thereto must be complied with within sixty days after the date of said notice from the Inspector of Buildings. | 1224 |
| Location, Inspector to approve. | PAR. 6. The location of fire-escapes shall always be subject to the approval of the Inspector of Buildings. All fire-escapes which are not constructed on public streets and alleys shall connect at the bottom, on the ground level, to open passageways connecting to streets or alleys and such passageways shall be maintained without doors or gates, as the Inspector of Buildings may direct. | 1225 |
| Passageways to street. | | 1226 |
| Materials for. | PAR. 7. All outside fire-escapes shall be made of wrought-iron or steel bars. | 1227 |
| Platforms required. | PAR. 8. All such fire-escapes shall be made with platforms at each floor connected by stairways. | 1228 |
| Projection into streets. | PAR. 9. All such fire-escapes, with the approval of the Inspector of Buildings, may project into streets and alleys. | 1229 |
| Stairways, etc. | PAR. 10. The stairways shall be constructed in openings in the platforms. Wherever practicable, the top platform shall be connected to the roof with a goose-necked ladder, and a drop ladder shall be provided to connect from the lowest platform to the pavement, if the platform is more than 14 feet above the ground. | 1230 |
| Platforms, supports for. | PAR. 11. The platforms shall be supported by cantilever construction or by | 1231 |

- brackets. When supported by brackets they shall not be more than 4 feet apart. The top chord of the bracket shall extend entirely through the wall and shall be anchored or otherwise substantially secured to the wall. On new buildings the brackets shall be set as the walls are being constructed; on old buildings holes shall be drilled through the walls to take the top chord.
- 1232** —brackets for.
- 1233** PAR. 12. The platform shall not be less than 3 feet in width. They shall not be above nor more than one foot below the opening. They shall extend entirely across connecting windows, and not less than 9 inches beyond the side of any such window. —width of.
- 1234** The landing at the foot of the stairs shall be not less than 24 inches long; the opening in the platform shall be sufficiently long to provide clear head room. Stair landings.
- 1235** PAR. 13. All window frames and sash or doors opening on to fire-escapes required under this ordinance shall be made of metal, or wood covered with metal, and glazed with wire glass. Windows on, to be metal.
- 1236** PAR. 14. The platforms shall be made of bars spaced with openings between them not less than $\frac{1}{2}$ of an inch nor more than $\frac{3}{4}$ inch wide. Platform construction.
- 1237** PAR. 15. The open sides of platforms shall be protected by railings substantially secured to the frame of the platform. —railings.
- 1238** PAR. 16. Each end of the top rail shall extend entirely through the wall, and shall —Anchoring of.

be anchored or otherwise substantially secured to the wall. The bottom rail shall be not more than 6 inches above the platform; the filling-in bars shall be riveted to both the top and bottom rails, and the open spaces between them shall be not more than 6 inches wide. The height of the railing shall be not less than 3 feet.

- Stair angles.** PAR. 17. Fire-escape stairs shall rise at an angle of not more than sixty degrees. The treads shall be of cast-iron or steel and not less than 6 inches in width and 20 inches in length. The rise of one tread above the other shall not be more than 10 inches. The string pieces shall be riveted and substantially connected to the frame of the platform at both the top and the bottom of the run. The run from one platform to another shall be continuous and straight. The stairs shall be provided with hand-rails on both sides, substantially connected to the stairs and where practicable to the platforms. **1239**
- rise of treads.** **1240**
- hand rails.** **1241**
- Ladder construction.** PAR. 18. Ladders shall be at least 17 inches wide in the clear and the rungs shall be made of $\frac{3}{4}$ -inch square iron with corners up and down. Every other rung shall be riveted in place, and they shall be spaced 14 inches, centre to centre. **1242**
- Notice plate.** PAR. 19. A cast-iron plate with raised letters bearing the following inscription shall be riveted in a conspicuous place at the entrance to and exit from each fire-escape: "Any person placing any obstruction or any inflammable or explosive material on any **1243**

part of this fire-escape is liable to a penalty of \$100.00, to be collectable as provided for by the regulations of this Code."

- 1244** PAR. 20. Every part of a fire-escape shall be made strong enough to carry 125 pounds of live load per square foot of platform, except the treads in the stairways, each of which shall be made strong enough to carry a load of 250 pounds. Live load requirements.
- 1245** PAR. 21. Every part of a fire-escape shall be proportioned to the loads herein specified, with the required factors of safety. Safety factor.
- 1246** PAR. 22. Every fire-escape shall be kept well painted and in perfect repair. Painting and repairs.
- 1247** PAR. 23. Every fire-escape shall be inspected immediately after its completion and once each year by the Inspector of Buildings, or by an inspector acting under his direction, and a report of every such inspection shall be made and filed in the office of the Inspector of Buildings, and a record thereof shall be made in books kept for that purpose under regulations formulated by the Inspector of Buildings. Inspection and report.
- 1248** PAR. 24. If defects or impairments shall be found at any such inspection, the Inspector of Buildings shall determine what changes or repairs shall be made, and the owner or person managing or controlling the building on which the fire-escape in question is constructed shall thereupon make the changes or repairs as required, and in case such Repair of defects.

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| Time limit | changes are not made within sixty days, both the owner and the person managing and controlling the building shall be liable to a penalty of not less than \$25.00 nor more than \$100.00 for each and every day thereafter that such changes or repairs shall not be made. | 1249 |
| Penalty. | | |
| Penalty. | PAR. 25. Every manufacturer, contractor or owner who shall fail to comply with the provisions of Section 40 of this Article shall be liable to a penalty of not less than \$50.00 nor more than \$200.00 for each and every violation. | 1250 |
| Inside stairways instead of. | PAR. 26. Inside stairways entirely enclosed by fire walls, and having a location approved by the Inspector of Buildings, may be used instead of outside fire-escapes. | 1251 |

SHUTTERS.

SECTION 41.

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| Buildings requiring. | PAR. 1. Every ordinary masonry and slow-burning building more than two stories in height, except hotels, lodging houses, apartment houses, tenements, dwellings, schools and other places of public assembly, shall have approved fire shutters made of iron or of wood, covered with tin or other metal, on every window or door opening on a street, alley and public or private way less than 30 feet in width, and on every opening on a court, yard or area within 30 feet of a window in any other building opening on the same court, yard or area. | 1252 |
| Windows over adjoining buildings. | PAR. 2. All windows and doors in a wall of any building built upon a party line, above | 1253 |

the roof of an adjoining building, shall likewise be protected with fire shutters.

- 1254** PAR. 3. Metal frames and sash, glazed with wire glass, may, with the approval of the Inspector of Buildings, be substituted for the fire shutters. Metal frames,
etc., instead
of.
- 1255** PAR. 4. If the shutters are made of wood covered with metal they shall be not less than $1\frac{3}{4}$ inches thick, and the pieces of metal covering must be joined on the edges of the shutter. The hardware for such shutters must be attached to the shutters on the outside of the metal covering. Construction of.
- 1256** PAR. 5. All shutters for openings to fire-escapes shall be arranged so that they can be opened from the outside. Every row of fire shutters on the front of a building shall also be arranged so that they can be opened from the outside. To open from
outside.
- 1257** PAR. 6. Rolling metal shutters shall be balanced so that they may also be opened on the outside. Rolling
shutters.
- 1258** PAR. 7. Inside fire shutters may be used in fireproof buildings or in places of public assembly, except that they shall not be used in hotels, lodging houses, apartment houses, tenements or dwellings. Inside
shutters.
- 1259** PAR. 8. Inside metal shutters shall not be used on any window or other opening for which outside metal shutters are required. —use of.
- 1260** PAR. 9. All outside fire-proof shutters must be closed at night, under penalty of Shutters to be
closed at
night.

\$25.00 for each and every night they shall be left open, the fine to be paid by the occupant of the building.

Modification
of require-
ments.

PAR. 10. The requirements of Section 41 of this Article may be modified by the Inspector of Buildings, upon the approval of the Mayor, and he may require shutters for windows and openings exempted by Section 41 of this Article, or permit the omission of the shutters where required.

1261

FIRE APPLIANCES.

SECTION 42.

Standpipes,
require-
ments for.

PAR. 1. Every building hereafter erected over 85 feet in height shall be provided with a standpipe. It shall be 4 inches in diameter if the building is not over 125 feet in height, and 6 inches in diameter if the building is over 125 feet in height.

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—specifica-
tions for.

PAR. 2. Every such standpipe shall extend from the basement to and through the roof. It shall have a street connection outside of the building. It shall also have one 2½ inch outlet on each floor, including the basement floor and on the roof. The exposed part of the pipe at the roof level shall be protected from freezing. The standpipe shall be placed as near the stairways in the building as practicable.

1263

—hose con-
nections.

PAR. 3. Every building over 85 feet in height shall be provided with hose on every floor connected to a standpipe and ready for use.

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1265 PAR. 4. If any building over 85 feet in height and 150 feet in length hereafter erected shall have a frontage on two streets, but which are not adjacent to each other, it shall be provided with two standpipes and connections, one for each street frontage, and each to comply with the requirements of Section 42 of this Article.

Buildings requiring two standpipes.

1266 PAR. 5. Every building over 85 feet in height erected prior to the date from which this ordinance takes effect shall be provided with a standpipe and with fire apparatus and appliances, in accordance with regulations formulated by the Inspector of Buildings, and approved by the Mayor, or in any way that they may especially require, if the same be approved by the Mayor.

Existing buildings to have.

1267 PAR. 6. Any owner or any person in charge of a building over 85 feet in height who shall fail to keep the standpipe, fire apparatus and appliances, as required by this ordinance, in good condition and in perfect order, shall be liable to a penalty of not less than \$50.00 nor more than \$200.00 for each and every violation.

Penalty for neglect.

THEATRES.

SECTION 43.

1268 PAR. 1. Every theatre or opera house and every other building used for theatrical or operatic purposes or public entertainments of any kind erected after the date from which this Article takes effect, and having accommodations for three hundred or more persons, shall conform to the requirements of Section 43 of this Article.

Application of provisions.

—to existing
buildings.

PAR. 2. Every building erected prior to the date of the approval of this ordinance, that is being used at the time of approval of this ordinance as a theatre, or for operatic purposes, or public entertainments of any kind, which shall be changed, altered or repaired to an extent equal to one-fourth ($\frac{1}{4}$) of its value, as it stands, exclusive of everything other than the structural part of the building, shall be made to conform to the requirements of Section 43, inclusive, provided that nothing in this section shall be construed to lessen the power of the Inspector of Buildings, to require such alterations or repairs of any part of parts, as are necessary to guard the public safety in theatres or any place of public assembly.

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Inspector's
powers not
affected.

1270

Use as tenements prohibited.

PAR. 3. No part of any building used as a theatre shall be occupied or used as a dwelling, tenement or apartment house, or for manufacturing or storage purposes, except as specially provided in Section 43 of this Article.

1271

—or as hotel,
etc.

PAR. 4. No part of any building used as a theatre shall be occupied or used as a hotel, lodging house or for private apartments, or for offices, or for the sale of merchandise unless the part or parts of the building used for any such purpose shall be separated from the theatre portion of the building by firewalls of brick masonry construction, or, if over the auditorium, by a ceiling and floor construction entirely separate and independent of each other, and such walls shall be built without any opening or communication between the theatre portion of the building

1272

—unless separating walls
provided.

1273

- 1274** and the parts so used and occupied for other purposes. All entrances and exits to the theatre leading through such walls shall be entirely separated from the adjoining portions of the building used for such other purposes by solid walls of brick construction. —Exits through such walls.
- 1275** PAR. 5. The space under the auditorium and under the stage of the theatre shall not be used and occupied for any purpose except for the requirements of the theatre. Space under stage, etc.
- 1276** PAR. 6. The space over the stage immediately back of the proscenium opening shall be used for no purpose except for the moving and handling of scenery. The working offices and rooms must be so arranged as not to be in direct lines of nor cause any impediment in any corridors, aisles or passages. —back of stage.
- 1277** PAR. 7. Every theatre having a seating capacity of 500 persons or more and having only one street front shall have an open court or space on each of the two other sides. Workroom arrangements.
- 1278** PAR. 8. When the auditorium contains a seating capacity of not more than 1,000 persons, such courts or open spaces shall be not less than 8 feet wide in the clear at all points within 10 feet of the pavement. Courts on two sides.
- 1279** PAR. 9. When the auditorium contains a seating capacity of more than 1,000 persons, —on one side.
- 1280** PAR. 10. When the auditorium contains a seating capacity of more than 1,000 persons, Size of courts for 1,000 persons.
- 1281** PAR. 11. When the auditorium contains a seating capacity of more than 1,000 persons, —for over 1,000.

such width shall be increased 1 foot for every 250 additional seating capacity or part thereof.

—to be open
overhead.

PAR. 10. Every such court shall adjoin that part of the building back of the proscenium wall for a distance of not less than 8 feet, and shall be open overhead for a lineal distance of not less than the length of the corresponding side of the auditorium. **1282**

—to connect
to street.

PAR. 11. Every such court shall connect as directly as possible to a street. The outlet may pass through a connecting part of the same building, or through an adjoining building, but the passageway shall be unobstructed the full width of the court except at the immediate opening to the street, where it may be not more than 2 feet less in width. **1283**

—passageways
from.

Such passageways shall be unobstructed by doors or gates at all times. Such passageways also shall be enclosed with brick walls and shall have floors and ceilings made entirely of incombustible materials. Both courts and passageways leading therefrom shall be at all times under the complete control of the theatre, and there shall be no opening into or communication with adjoining premises from such courts and passageways. Exits may be made from the rear of the stage and doorways arranged for transportation of scenery, as approved by the Inspector of Buildings. **1284**

Stage exits.

1285

Floor levels.

PAR. 12. The level of the floor in the corridors at the front of a theatre shall be the same height as the sidewalk at the entrance, or not more than one step higher than the sidewalk at the entrance. **1286**

- 1287** PAR. 13. The stage shall not be more than 2 feet higher nor more than 5 feet lower than the level of the sidewalk at such entrance. Stage levels.
- 1288** PAR. 14. The height from the main floor to the ceiling under the first floor tier shall not be less than 10 feet at any place, the height at any place from the floor of any floor tier to the ceiling of the floor tier next above shall not be less than 8 feet. and the height between the highest part of the floor of the uppermost floor tier and the lowest part of the ceiling over that floor tier shall not be less than 12 feet. Ceiling heights.
- 1289** PAR. 15. No theatre shall have more than three floor tiers above the main floor of the auditorium. Tiers of seats allowable.
- 1290** PAR. 16. All requirements for fire-proof construction in theatres shall conform to the requirements for buildings over 100 feet high. Fire-proof construction.
- 1291** PAR. 17. Every building used in whole or in part for a theatre having accommodation for more than 500 persons shall be made fire-proof building. —size requiring.
- 1292** PAR. 18. The stage, auditorium, lobbies, entrances, passageways, and all rooms connecting thereto in every theatre required to be made a fire-proof building, and all parts of any such building outside of the theatre shall be made to conform to the requirements for fire-proof buildings. —stage, etc., fire-proof requirements.
- 1293** The main floor of the auditorium and of the lobbies, passage- Floors.

ways, entrances and all other rooms connecting thereto on the same level, and the supports thereof in every theatre, shall conform to the requirements for floors in fire-proof buildings.

Non-fire-proof
theatres.

PAR. 19. No theatre not a fire-proof building shall have more than one floor tier above the main floor of the auditorium, and such floor tier shall have seating accommodation for not more than 200 persons. **1294**

Fire walls to
separate
workrooms,
etc.

PAR. 20. Every workshop, storage and general property room connecting to the stage shall be separated from the stage by a fire wall of fire-resisting material, and the openings leading from the stage to such workshop, storage and property rooms shall be provided with a self-closing door made of metal, or of wood covered with metal, hung in an iron frame in such a way that it may be opened from either side. Every such door shall be provided with a latch or fastening which will hold the door in place when it is closed. Not more than two such rooms shall communicate with each other. **1295**

—fire doors in.

Fire curtains
not to roll.

PAR. 21. The space above the stage shall be of sufficient height to allow the fire-curtain and all other curtains and scenery to be raised above the top of the proscenium opening in one piece without rolling. **1296**

Exterior win-
dow sash to
open.

PAR. 22. Fixed sashes shall not be used in windows in exterior walls, and iron grills or bars shall not be used to enclose such windows. **1297**

- 1299** PAR. 23. Except as otherwise required, the finish of the floor in all parts of every theatre may be of wood, in accordance with the provisions of Section 22 of this Article; for floors in buildings over 100 feet high. Wood floors in.
- 1300** PAR. 24. In every theatre the auditorium shall be separated from the stage by a fire wall of fire-resisting material, which shall extend at least 4 feet above the roof over the stage, or above the roof over the auditorium, if the latter be higher. Fire walls between stage and auditorium.
- 1301** PAR. 25. A steel constructed girder shall be used for the proscenium opening to support the proscenium wall and the loads carried upon it over the proscenium opening, and the girder so used shall be covered with porous terra cotta fire-proofing or cinder concrete at all points not less than 4 inches thick on the side and 4 inches on the bottom. The construction and support of the fire-proofing shall in all cases be made satisfactory to the Inspector of Buildings. Proscenium opening supports.
- 1302** PAR. 26. All sides of the proscenium opening, both ornamental and structural, shall be finished with incombustible materials, and if metal is used it shall be anchored to the wall with iron anchors and filled in behind solidly with incombustible materials. —sides to be incombustible.
- 1303** PAR. 27. If the orchestra gallery is constructed above the proscenium opening, it shall be placed on the auditorium side of the proscenium wall and shall be entered only from the auditorium side of the wall. Orchestra gallery.

- doors to. PAR. 28. Every such door leading to this gallery shall be provided with a latch or fastening, which will hold the door in place when it is closed, and the door shall be made fire-proof. **1304**
- Fire curtains. PAR. 29. The proscenium opening shall be provided with a fire-curtain made of metal or of asbestos or other fire-proof material approved by the Inspector of Buildings. Every such curtain shall slide at each end in grooves not less than 6 inches deep, made of iron construction and securely fastened to the wall. Every such curtain shall be operated by a mechanism approved by the Inspector of Buildings. **1305**
- operation of. **1306**
- Wood in fire-proof theatres. PAR. 30. In theatres required to be made fire-proof buildings, wood may be used where strength is not involved in the construction of that portion of the stage immediately back of the proscenium opening required for the working of machinery, traps, and for mechanical apparatus for the presentation of scenes. **1307**
- Fly galleries, etc. PAR. 31. In all such theatres the fly-galleries shall be made as required in fire-proof buildings for floor construction. The pin rails shall be made of iron and the finish of the floor shall be made of some incombustible material. **1308**
- Gridiron construction. PAR. 32. In all such theatres no wood shall be used in the construction of the gridiron. **1309**
- Dressing room locations. PAR. 33. In all theatres dressing rooms may be placed in the rear or at either side of **1310**

- the stage or not more than 15 feet below the stage, or in the fly-galleries, provided that the required exits can be arranged therefrom, but all stairs and stairways leading to the same shall be made of incombustible materials.
- 1312 PAR. 34. All shelving and cupboards in dressing rooms shall be constructed of metal, slate or other incombustible material. —metal shelving, etc., required.
- 1313 PAR. 35. In all theatres metal skylights shall be provided in the roof over the stage back of the proscenium arch. They shall have a combined area, when open, of at least one-eighth the area of the whole stage, and shall be glazed with double thick sheet glass having not less than 300 square inches in one pane and not exceeding $\frac{1}{8}$ of an inch in thickness. The entire area of such skylights shall be constructed with sliding sash to open instantly upon the cutting or burning of a hempen cord, which shall be arranged so that it may be easily reached from the floor of the stage; provided, however, that the Inspector of Buildings may substitute any other device for opening such skylights which meets with his approval. Skylights over stage.
- 1314 —sash arrangements.
- 1315 PAR. 36. Wire nettings shall be suspended under all such skylights. Wire glass shall not be used. —wire netting under.
- 1316 PAR. 37. All entrances and exits to theatres, except as otherwise in this section specially provided, shall be 5 feet wide, and all entrances and exits shall be provided with doors hung in two folds, opening outwardly. Entrances and exits.

—doors of.

PAR. 38. No such doors shall open immediately upon a flight of steps, but upon a landing or platform, the length and width of which shall be not less than the width of the steps leading therefrom. All such doors shall be so arranged so that they may be fastened open. The open width required for entrances and exits shall be the clear open space when the doors are open. **1317**

—doors to fasten open.

1318

Exits — number required.

PAR. 39. Every theatre having a seating accommodation for not more than 500 persons shall have two exits on the main floor placed as far apart as possible. If such a theatre has a gallery it shall have a third exit leading directly to the street or to a lobby. The main entrance to such a theatre shall be not less than 7 feet wide, and the aggregate width of the entrances to such a theatre shall be not less than 14 feet. **1319**

—width required.

1320

—ratio to seating capacity of floors.

PAR. 40. In every theatre having a seating accommodation for more than 500 persons, each floor tier above the main floor having seating accommodation for not more than 500 persons shall have two exits. If such seating accommodations are for not more than 300 persons, such exits may be made 4 feet wide. If each of such floor tiers has accommodations for more than 500 and not more than 1,000 persons, it shall have four entrances; for more than 1,000 and not more than 1,500 persons, it shall have six entrances, and for more than 1,500 persons the number of entrances shall be similarly increased. One-half of such entrances shall open to the outside on one side of the audi- **1321**

torium, and the other half on the other side of the auditorium.

- 1322** PAR. 41. If the seating space in any such theatre is otherwise divided into separate parts, each such separate part shall have exits with an aggregate width of not less than 2 feet for each 100 persons having seating accommodation in such separate divisions. Seating divisions to have separate exits.
- 1323** PAR. 42. The main floor of any such theatre shall have four side entrances besides the main front entrance. Such entrances shall be arranged as symmetrically as possible, and two shall open to the outside on one side of the auditorium, and two on the other side of the auditorium. Main floor entrances.
- 1324** PAR. 43. All exit doors leading from the auditorium shall be placed at the head of the aisles. They shall be made of incombustible materials, of light construction, self-closing, and shall have no lock, bolt, bar or fastening of any kind. Such exits and the passageways thereto shall lead as directly as possible to the outside or to the intervening lobbies. Auditorium exits.
- 1325** PAR. 44. Inclines shall be made in the floors of such passageways instead of steps, but no incline shall have a steeper grade than one in ten. —inclined passageways in.
- 1326** PAR. 45. The walls of such passageways shall have no recesses or projections within 6 feet of the floor. No pegs, hooks or nails —walls of.

- for the support of articles shall be placed on such walls, and no door handles or other fittings shall project into such passageways under any conditions more than 1 inch. All doors opening from cloak and other rooms into such passageways shall be hung so that a crowd of people passing from the auditorium to the street shall hold them closed. **1327**
- doors of.
- width required. **1328**
- PAR. 46. The width of all such passageways in the clear shall be one-third wider than the aggregate width of the exits leading into them.
- Lobby and foyer exits. **1329**
- PAR. 47. The width of all passageways, corridors and vestibules leading from lobbies and foyers shall be three feet in width in the aggregate for each 100 persons who can gain admittance to such lobbies and foyers in passing from the auditorium to the street.
- Main entrance areas. **1330**
- PAR. 48. The main entrance to every theatre shall be 1 foot 9 inches wide for each 100 persons who may pass from the auditorium to the street through such exit.
- Other entrances. **1331**
- PAR. 49. All other entrance openings in outer walls shall be not more than 6 inches narrower than the width of the corridor or passageways leading therefrom.
- Stage exits. **1332**
- PAR. 50. In every theatre there shall be two separate exits from the stage back of the proscenium wall, one on each side of the auditorium, and the passageways leading thereto shall conform to the requirements of this section for passageways leading to other exits.

- 1333** PAR. 51. All dressing rooms and work rooms shall be connected by suitable passageways to at least one side exit without crossing the stage. Dressing room passageways.
- 1334** PAR. 52. Every door or opening which may be used to pass from the auditorium of a theatre to the street shall be indicated by the word "EXIT" plainly marked above the opening in at least 7-inch letters. "Exit" signs.
- 1335** PAR. 53. In every theatre the entrance vestibules, lobbies, foyers, passageways, corridors and other rooms connecting thereto, and all outside rooms over them shall be separated from the auditorium by walls through which there shall be no openings except properly constructed exits. Walls between auditorium and lobbies, etc.
- 1336** PAR. 54. If the first floor tier in a theatre has seating accommodations for more than 500 persons it shall have one or more stairways leading to a lobby or directly to the main entrance, and shall have in addition thereto, two other stairways, one on each side of the auditorium leading to side exits. Stairways, to lobby and exits.
- 1337** PAR. 55. Each floor tier above the first in such a theatre shall have not less than two stairways, one on each side of the auditorium leading to side exits. —each floor to have two.
- 1338** PAR. 56. No such interior stairway shall be less than 4 feet wide in the clear between hand-rails. Interior stairways.
- 1339** PAR. 57. The aggregate width of all such stairways leading from the same floor tier, or from any other separate divisions of the —proportions required.

auditorium shall be two feet for each 100 persons who may have access to such stairways in passing from the auditorium to the street.

—enclosing
walls of.

PAR. 58. Every such interior stairway shall be enclosed by a wall through which there shall be no opening, except for the entrance and exit passageways leading thereto and therefrom.

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—balustrades
of.

PAR. 59. Every such stairway that returns directly upon itself may be bounded on the adjoining sides by a solid balustrade not less than 4 feet high.

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—handrails.

PAR. 60. Every such stairway shall have a metal hand-rail on each side not more than 2 inches in diameter, substantially secured to the walls or to the balustrades, not more than 3 feet above the stairs. Every such hand-rail shall be continuous from the top of the stairway to the bottom, unless the part required to be made level at landings shall be more than 3 feet long.

1342

—handrail
ends.

PAR. 61. The ends of every such hand-rail shall be bent or turned to the wall or balustrades.

1343

—parting
rails.

PAR. 62. Every such stairway 8 feet or more in width shall have a parting rail of like character in the middle of the stairs, about 3 feet above the centre of the treads, supported by substantial metal standards from 4 to 6 feet apart, and at the upper ends by a metal post or standard not more than 4 inches in diameter, extending from the floor to the ceiling or soffit of the stair overhead.

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- 1345** PAR. 63. At the foot of the stairway the parting rail shall be bent down vertically and bolted or substantially screwed to the floor. —to be bolted down at foot.
- 1346** PAR. 64. Every such stairway shall have straight runs and steps of uniform width. Stairway runs.
- 1347** PAR. 65. The landings of every such stairway that returns directly upon itself shall extend the full width of both flights without intermediate steps. —landings.
- 1348** PAR. 66. The landings of every such stairway that turns from one flight to another at any angle less than ninety degrees shall be made not less than 2 feet long on the shortest side. —landing widths.
- 1349** PAR. 67. No winding or intermediate steps shall be made in any such stairway landing. —intermediate steps prohibited.
- 1350** PAR. 68. The width of the platforms in such stairways shall never be less than that of the stairs. —platform widths.
- 1351** PAR. 69. The walls in the outside corners at all landings in such stairways shall be curved to a radius of not less than 2 feet. —walls to be curved.
- 1352** PAR. 70. No unbroken flight of steps in such a stairway shall have more than fifteen risers or less than three. —maximum flights.
- 1353** PAR. 71. No landing in a straight run of stairs shall be shorter than 5 feet. Landings.
- 1354** PAR. 72. The risers in such stairways shall have a uniform height of not more than 7 inches and the treads shall have a uniform width of not less than 10½ inches, exclusive of the nosing. —risers and treads.

Fly gallery,
etc., stair-
way.

PAR. 73. The fly-galleries and dressing rooms in all theatres shall be provided with an independent stairway at each end of the stage, which shall connect as directly as practicable to exits or exit passageways. **1355**

Stairway
walls.

PAR. 74. The enclosing walls of all interior theatre stairways shall be constructed without recesses or projections within 6 feet of the floor. **1356**

Auditorium
stairways
outside.

PAR. 75. The stairways leading to exits on each side of the auditorium, as required by the provisions of Paragraphs 54 to 74, inclusive, of this section, may be constructed on the outside of the building. **1357**

—minimum
width of.

PAR. 76. No such exterior stairway shall be less than 3 feet wide in the clear. **1358**

—aggregate
width of.

PAR. 77. The aggregate width of all such exterior stairways leading from the same floor tiers, or from any other separate division of the auditorium, shall be 1 foot 9 inches for each 100 persons who may have access to such stairways in passing from the auditorium to the street. **1359**

—materials re-
quired.

PAR. 78. Such stairways shall be made entirely of rolled steel and the treads and platforms shall be made with slots or other openings. **1360**

—construction
of.

PAR. 79. Such stairways shall be substantially supported and the construction shall be approved by the Inspector of Buildings. **1361**

—riser and
treads.

PAR. 80. The risers in such stairways shall have a uniform height of not more than **1362**

8½ inches and the treads shall have a uniform width of not less than 9 inches, exclusive of the nosing.

- 1363** PAR. 81. Such stairways shall be protected by a substantial railing 4 feet high above the stairs, through which there shall be no opening more than 4 inches wide. —railings of.

- 1364** PAR. 82. Such stairways shall have a continuous metal hand-rail 2 inches in diameter, substantially supported from the wall of the building about 2 feet 6 inches above the stairs. —handrails.

- 1365** PAR. 83. No flight of steps in such stairways shall have more than fifteen risers, and platforms shall be not less than 5 feet long. —maximum flights.

- 1366** PAR. 84. The lobbies and foyers connected with any separate and distinct division of a theatre shall have in the aggregate a clear floor space equal in square feet to one and one-half times the number of persons who can pass from the auditorium through such lobbies and foyers to the street. Lobby and foyer floor areas.

- 1367** PAR. 85. The aisles of every theater shall be made in as direct a line and as nearly at right angles to the lines of seating as possible. At the end farthest from the stage they shall terminate at an exit door. Aisles.

- 1368** PAR. 86. The narrowest part of such aisles shall be at the end next the stage, and the widest part shall be at the other end. The lines of divergence shall be regular. At the narrowest part no such aisle shall be less —proportions of.

than 3 feet wide when there are seats on both sides, nor less than 2 feet wide when there are seats on only one side.

—incline of.

PAR. 87. If the rise from back to back of seats is not over 6 inches the difference shall be overcome in the aisle by inclining the floor; but if it is more than 6 inches the difference shall be overcome with steps connecting portions of level floor immediately opposite the openings between seats. **1369**

—seats between.

PAR. 88. No seat on the auditorium in any theatre shall have more than six seats intervening between it and an aisle on one side of it or the other. **1370**

Seats, distance between.

PAR. 89. All seats, except those in the boxes, shall be not less than 32 inches from back to back, measured in a horizontal direction. **1371**

—to be fastened to floor.

PAR. 90. All seats shall be substantially fastened to the floor. **1372**

—floor heights.

PAR. 91. The height of the floor for each back of seats shall never be more than 21 inches higher than that immediately in front, and never less than 2 feet 8 inches wide. **1373**

Lighting of auditorium.

PAR. 92. The lights in the auditorium shall be controlled independently from both the stage and the front of the house. **1374**

—of proscenium.

PAR. 93. The lights of the proscenium and back of same shall be controlled from the stage, and in the separate rooms they shall also be controlled locally. **1375**

- 1376** PAR. 94. The lights in the vestibule, lobby, foyer, passageway and in all rooms communicating therewith, shall constitute an entirely independent system of wire and connections, controlled independently from both the stage and front of the house. —of vestibule, lobby, etc., to be separate.
- 1377** PAR. 95. This independent service shall be arranged that the lamps and connection shall be made in such a way that any interruption of the regular main fuses shall not cause the lights to be turned off the vestibules, lobby, foyer, passageways and rooms leading thereto. —independent service for lobby,
- 1378** PAR. 96. A single red gas light, using not less than 2 cubic feet of gas per hour, shall be kept burning at each exit of any building used as a theatre during public entertainments. Exit red lights.
- 1379** PAR. 97. The auditorium of every theatre having a seating accommodation for 500 persons or more shall be provided with a system of mechanical ventilation which shall provide 10 cubic feet of outside air per minute for each person. Every such system shall be approved by the Inspector of Buildings. Ventilation of auditorium.
- 1380** PAR. 98. All dressing rooms and all water closets and urinal accommodations in such theatres shall be adequately ventilated by windows in exterior walls opening to the outside air. —of dressing etc., rooms, etc.
- 1381** PAR. 99. The roof of every stage shall be provided with a vent or vents, extending not less than 15 feet higher than the highest part Roof vents.

- of such roof, and higher than any roof adjoining same building. Such vents shall have an aggregate area in cross section equal to three per cent. of the area of the stage. They shall be provided with dampers which shall be controlled both from the stage and from some accessible point in the front of the building. Each of such controllers shall have printed over it the words, "Move the switch to the left in case of fire," or other words, as may be necessary, to the same effect.
- dampers for **1382**
- controllers for. **1383**
- Water closets for auditorium. **1384**
- PAR. 100. In every theatre having seating accommodation for 500 persons or more each separate and distinct division of the auditorium shall be provided with separate water closet accommodations for men and women and urinal accommodations for men. Such accommodations shall be adequate and easily accessible.
- for proscenium. **1385**
- PAR. 101. Separate accommodations shall be likewise provided for the men and women employed back of the proscenium wall.
- Telephones to fire headquarters. **1386**
- PAR. 102. Every theatre having a seating accommodation for 500 persons or more shall have a direct telephone connection with the headquarters of the general fire-alarm system, or it shall have fire-alarm the same as used elsewhere.
- location of. **1387**
- PAR. 103. The location of such a telephone or of such alarm in the building shall be fixed by the Board of Fire Commissioners.

- 1388** PAR. 104. The main floor and each floor tier above in theatres having seating accommodation for 500 persons or more shall have two separate and distinct 4-inch diameter standpipes, one on each side of the auditorium. They shall be fitted with the regulation couplings like those used by the Fire Department, and shall be arranged to take water from an automatic fire pump, or pumps which shall have sufficient capacity to maintain thirty pounds of pressure per square inch to the top floor tier when all standpipes and hose connections in the theatre are operated simultaneously. Standpipes.
- 1389** —couplings for.
- 1390** PAR. 105. The pumps shall be supplied directly from the street mains or otherwise, with the approval of the Inspector of Buildings, and shall be kept ready for instant use at all times during a performance. The connecting pipes shall be kept constantly filled with water. —pumps for.
- 1391**
- 1392** PAR. 106. Such pipes shall also have an extension to the sidewalk of suitable size, with a regulation Siamese connection. —Siamese connections.
- 1393** PAR. 107. Similar standpipes shall be provided for each tier of rooms connecting to the stage and another in the carpenter shop and another in the property room, if such rooms connect with the stage. Stage, etc., standpipes.
- 1394** PAR. 108. A suitable quantity of 2½-inch hose, as may be directed by the Inspector of Buildings, but not less than 100 feet in length, fitted with the regulation couplings as used by the Fire Department, and Hose and couplings.

with nozzles attached thereto, and hose spanners at each outlet shall be connected to each hose attachment, as the Fire Department may direct.

Water casks
on stage.

PAR. 109. Not less than four casks of thirty gallons each, full of water, with two spherical-bottom buckets to each cask, shall be furnished and kept in readiness for immediate use on the stage. Such casks and buckets shall be painted red. **1395**

Hand pumps
and axes.

PAR. 110. Hand pumps or other apparatus for fire extinguishing, and not less than four axes and two 25-foot hooks, two 15-foot hooks and two 10-foot hooks shall be provided and kept on each tier or floor of the stage. **1396**

Posting fire
regualtions.

PAR. 111. The regulations of the Fire Department in reference to the use of such apparatus shall be posted in some conspicuous place upon the stage. **1397**

Automatic
sprinklers
over stage.

PAR. 112. In every theatre having a seating accommodation for 500 persons or more a separate and distinct system of automatic sprinklers with fusible plugs, to be approved by the Inspector of Buildings, supplied with water from a tank located on the roof over the stage and not connected in any manner with the standpipe system, shall be placed at each side of the proscenium opening and under the ceiling or roof over the stage at short intervals, so that every square foot of stage surface shall be protected with such sprinklers when they are in operation. **1398**

- 1399** PAR. 113. Automatic sprinklers shall also be placed with strappings in the dressing rooms, under the stage and in the carpenter's shop, paint rooms, store rooms and in the property rooms. —in dressing rooms.
- 1400** PAR. 114. This system of sprinklers shall also be arranged to flood the inside surface of the fire curtain. —to flood fire curtain.
- 1401** PAR. 115. A pipe connected with the sprinkler system shall extend to the street at or near the sidewalk level. It shall be provided with a regulation Siamese connection and sufficient check valves for the control of the water from either the tank or the Fire Department's supply. —pipe connection to street.
- 1402**
- 1403** PAR. 116. Every boiler and dynamo which may be required for heating, lighting or other purposes in a theatre shall be in an entirely fire-proof enclosure, and the space allotted thereto shall be enclosed on all sides by walls of brick masonry, and the ceiling of roof over each space shall be constructed of incombustible materials. All doorways in such walls shall be made of iron or of wood covered with metal. Boiler and dynamo enclosures.
- 1404** —doors in.
- 1405** PAR. 117. No register used for heating purposes shall be constructed in the floor of any theatre. Heating registers prohibited.
- 1406** PAR. 118. No coil or pipes or radiator shall be placed in any aisle or passageway used as an exit; but all such coils and radiators in the auditorium shall be placed in recesses formed in the walls for that purpose. Radiators in aisles prohibited.

Heating pipes
to be en-
cased.

PAR. 119. All supply, return and exhaust pipe shall be properly encased and protected where passing through floors or near wood-work. **1407**

Inspections.

PAR. 120. Every theatre shall be inspected immediately after its completion and after alterations, repairs or changes have been made, and at least once every two years thereafter by the Inspector of Buildings, or by an inspector acting under his direction, and a report of every such inspection shall be made and filed in the office of the Inspector of Buildings, and a record thereof shall be made in books kept for the purpose under regulations formulated by the Inspector of Buildings. **1408**

—report of.

1409

—regulations
for.

PAR. 121. The inspection called for in this section shall be made under regulations formulated by the Inspector of Buildings, and shall include tests of all the facilities required to be provided by Section 7 of this Article, as he may determine. **1410**

—costs of.

PAR. 122. The owner or person managing or controlling a theatre shall afford, at his own expense, the means necessary for such inspection and for such tests. **1411**

—penalty for
obstructing.

PAR. 123. Every owner or person managing or controlling a theatre who shall refuse to permit such inspection, or shall interfere with such inspection, or who shall fail to afford means for such inspection, shall be liable to a penalty of not less than \$25.00 nor more than \$100.00 for each and every day that such refusal shall occur. **1412**

- 1413** PAR. 124. A report shall be made of every such inspection. All such reports shall be filed in the office of the Inspector of Buildings, and a record of them complete in every detail shall be made in books kept for that purpose under regulations formulated by the Inspector of Buildings. Reports of inspections.
- 1414** PAR. 125. As soon as possible after such a report is filed the Inspector of Buildings shall notify the owner or the person managing or controlling the theatre in question of any repairs or changes which it is necessary to make to conform to the requirements of law or ordinance, and if any owner or person managing or controlling a theatre shall fail or neglect to make the repairs or changes Notice to repair.
- 1415** described in such a notice within thirty days of the notice so received by them he shall be liable to a penalty of \$100.00 for non-compliance therewith, and \$25.00 per day for each and every day thereafter that he shall refuse to make such repairs or changes. Penalty for failure.
- 1416** PAR. 126. In case of defects or impairments which shall tend to endanger life, the Inspector of Buildings shall report the facts to the Mayor, who may, in his judgment, require the theatre in question to be closed until the required changes are made. Closing in case of danger.

PUBLIC BUILDINGS.

SECTION 44.

- 1417** PAR. 1. Section 44 of this Article shall apply to all public buildings and rooms classed as public buildings, except theatres. Buildings to which applicable.

| | | |
|-------------------------|---|------|
| Entrances and exits. | PAR. 2. All entrances and exits of public buildings, except as otherwise in this section provided, shall be not less than 5 feet wide, and all entrances and exits shall be provided with doors hung in two folds, opening outwardly. No such doors shall open immediately upon a flight of steps, but upon a landing or platform, the length and width of which shall not be less than the width of the steps leading therefrom. | 1418 |
| Landing at openings. | | 1419 |
| Number of entrances. | PAR. 3. Every room in a public building having more than 3,000 square feet of floor area shall have not less than two separate entrances, located as far as possible from each other, and the width of the exits from any such room, in the aggregate, shall be not less than 4 inches for each 100 square feet of floor area in the room, and in any case not less than 5 feet. | 1420 |
| Width of exits. | | 1421 |
| Halls, vestibules, etc. | PAR. 4. All halls, vestibules and passageways used as exits in such buildings shall be provided with lighting facilities, and all fixtures relating thereto shall be not less than 7 feet above the floor. | 1422 |
| Stairways. | PAR. 5. No stairway in a public building shall be less than 4 feet wide in the clear. | 1423 |
| —Inspector approve. to | PAR. 6. The total width and the number and location of the stairways in every public building shall be subject to the approval of the Inspector of Buildings. In general, both the width and number of such stairways shall harmonize with similar requirements for other buildings | 1424 |
| —Runs and steps. | PAR. 7. Every such stairway shall have straight runs and steps of uniform width | 1425 |

- 1426** PAR. 8. Every such stairway shall have a hand-rail about 2 feet 10 inches above the stairs. Stairways—
handrails.
- 1427** PAR. 9. The width of the platform shall not be less than the width of the stairs. —platforms.
- 1428** PAR. 10. The riser shall be uniform and not over 7 inches in height, and the treads shall be uniform and not less than 10½ inches in width, exclusive of the nosing. —risers.
- 1429** PAR. 11. In public buildings, having rooms with heating accommodations, no aisles with seats on both sides shall be less than 3 feet wide, and no aisle with seats on one side shall be less than 2 feet 6 inches wide. The Aisles—width
of.
- 1430** aggregate width of such aisles shall not be less than that of the exits from the same room. —width in
aggregate.
- 1431** PAR. 12. No seat in such a room shall have more than seven seats intervening between it and an aisle on one side of it or the other, counting 2 feet for each seat. —distance of
seats from.
- 1432** PAR. 13. Inclined floors in public buildings shall not have a steeper gradient than one in ten. Inclined floors.
- 1433** PAR. 14. Public buildings shall be lighted with gas or electric light. Lighting.
- 1434** PAR. 15. Every public building shall be provided with separate water closet accommodations for men and women, and urinal accommodations for men. Such accommodations shall be adequate and easily accessible. Water closets
and urinals.

| | | |
|---------------------------|---|------|
| School buildings. | PAR. 16. All buildings hereafter constructed for use as public school buildings shall be erected under the supervision of the Inspector of Buildings of such fire-proof materials over and about all furnace or heating apparatus, where such heating apparatus is within two feet of the ceiling line, as are now used in the construction of modern buildings supposed to be absolutely fire-proof, and all heating and smoke pipes shall be encased entirely in fire-proof materials. | 1435 |
| —fire-proof requirements. | | 1436 |
| Boilers and dynamo rooms. | PAR. 17. Every boiler and dynamo required for heating, lighting, or other purposes in a public building shall be located in a room which shall be enclosed and separated from the rest of the building by brick walls and a floor and ceiling of incombustible material. | 1437 |
| —doors to. | All doors to such rooms shall be made of metal or of wood covered with metal. | 1438 |
| Inspections. | PAR. 18. Every public building shall be inspected immediately after its completion, and after alterations, repairs or changes have been made, and at least once every two years thereafter, by the Inspector of Buildings, or by an inspector acting under his direction, and a report of every such inspection shall be made and filed in the office of the Inspector of Buildings, and a record thereof shall be made in books kept for the purpose under regulations formulated by the Inspector of Buildings. | 1439 |
| —report of. | | 1440 |
| Defects, etc. | PAR. 19. If defects or impairments shall be found at any such inspection, the Inspector of Buildings shall determine what changes | 1441 |

- or repairs shall be made, and the owner or the person managing or controlling the building in question shall thereupon make the changes or repairs as required, and in case such changes are not made within thirty days from the date of the notice received from the Inspector of Buildings requiring changes or repairs to be made, both the owner and the person managing or controlling the building shall be liable to a penalty of \$100.00 for non-compliance therewith, and \$25.00 per day for each and every day thereafter that he shall refuse to make such changes or repairs. The time may be extended for making said alterations or repairs, if in the judgment of the Inspector of Buildings, it is safe to do so.
- Penalties.
- Extension of time limit.

TENEMENT AND APARTMENT HOUSES.

SECTION 45.

- 1444** PAR. 1. The various paragraphs under this sub-title, Tenements and Apartment Houses, shall apply to all structural work in buildings hereafter erected for such uses, but all other provisions outside of the actual construction of walls, floors, etc., of the house proper shall apply in every case.
- Effect of provisions of this section defined.
- 1445** PAR. 2. No tenement or apartment house shall be built on any lot unless the front of said lot abuts on a street not less than 40 feet wide. No tenement or apartment house shall be built on the rear of any lot unless the rear of said lot abuts on a street not less than 40 feet wide.
- Tenement, etc., lots.

Spaces between
tenement and
other build-
ings on
same lot
when lower
of two such
buildings is:

PAR. 3. A tenement or apartment house erected opposite to another building on the same lot between street lines shall be separated from it by an unoccupied space extending across the entire width of the lot, which shall be paved at about the street or sidewalk grade with concrete not less than 5 inches thick and with a top finish of cement mortar 1 inch thick, made of one part of cement to not more than two parts of sand. **1446**

—1 story high.

PAR. 4. If the lower of two such buildings is one story high, the space between them shall be not less than 10 feet wide. **1447**

2 stories
high.

PAR. 5. If the lower one is two stories high, the space between them shall be not less than 15 feet wide. **1448**

—3 stories
high.

PAR. 6. If the lower one is three stories high, the space between them shall be not less than 20 feet wide. **1449**

—4 stories
high.

PAR. 7. If the lower one is four stories high, the space between them shall not be less than 25 feet wide. **1450**

—location of
reserved
space.

PAR. 8. Every such reservation of 10, 15, 20 or 25 feet shall be made entirely upon the property owned and controlled by the owner of the tenement or apartment house in question, erected opposite to another building on the same lot. **1451**

Where a build-
ing is erect-
ed on a tene-
ment lot.

PAR. 9. If any building shall be erected upon any lot upon which there is already a tenement or apartment house, the space between the said building and the said tenement or apartment house shall be of such size and arranged in such manner as is pre- **1452**

- scribed in this section, the dimensions to be regulated by the height of the lower building of the two; every such reservation to be made entirely upon the property owned or controlled by the owner of the building in question.
- 1453** Location of reserved space.
- 1454** PAR. 10. No tenement or apartment house shall cover more than eighty per cent. of a lot bounded by two intersecting streets (each street to be not less than 40 feet wide), nor shall any tenement or apartment house cover more than seventy per cent. of any other lot. Tenement area of.
- 1455** PAR. 11. In the rear of every tenement or apartment house hereafter erected on an interior lot there shall be a yard extending across the entire width of the lot. at every point open from the ground to the sky unobstructed, except that fire-escapes or unenclosed outside stairs may project not over 4 feet from the rear line of the house. The depth of said yard, measured from the extreme rear wall of the house to the rear line of the lot, shall never be less than 12 feet in any part, and shall be increased in depth 1 foot for every additional 12 feet in height of the building in excess of 60 feet. Yards in rear of.
- 1456** —depth of.
- 1457** PAR. 12. The depth of the yard in the rear of every tenement or apartment house hereafter erected upon a lot at the intersection of two streets shall be not less than 10 feet in every part, provided that where such lot is less than 100 feet in depth, the depth of the yard may be not less than ten per cent. of the depth of such lot, but shall never be less than 5 feet in any part. —depth of. corner lots.
- 1458** —minimum depths.

Height of.

PAR. 13. The height of no tenement or apartment house shall be more than one-half exceed the width of the widest street upon which it stands. **1459**

Basement story.

PAR. 14. The basement story of a tenement or apartment house shall be not less than 8 feet in the clear. All other stories of tenements or apartment houses shall be not less than 9 feet in the clear. **1460**

Girders of.

PAR. 15. Girders may project below the ceilings of such stories, but in no case shall such girders finish more than 6 inches lower than the ceiling distances given in this section. **1461**

Courts.

PAR. 16. Every court in a tenement or apartment house into which windows open from living rooms, entirely enclosed by buildings, except as hereinafter provided, shall have at least the following dimensions: **1462**

| | | MINIMUM | | |
|-----------------|----------------------------|-------------|--------|-------------|
| | | AREA. | WIDTH. | |
| —dimensions of. | 2 story building | 100 sq. ft. | 6' 0" | 1463 |
| | 3 " | 150 " | 7' 0" | |
| | 4 " | 225 " | 8' 0" | |
| | 5 " | 300 " | 9' 0" | |
| | 6 " | 350 " | 11' 0" | |
| | 7 " | 540 " | 13' 0" | |
| | 8 " | 750 " | 16' 0" | |
| | 9 " | 1100 " | 20' 0" | |
| | 10 " | 1600 " | 24' 0" | |

—passageways of.

PAR. 17. In tenements or apartment houses over two stories high every enclosed court shall have an open passageway on the ground **1464**

level not less than 2 feet 6 inches wide and 6 feet 6 inches high connecting it to a street or alley. It may be closed with a gate or door of open construction, but sixty per cent. of the area shall be kept open to the air. If the area of the court is more than 340 square feet, the cross section of the passageway shall be made not less than five per cent. of the area of the court.

1465 PAR. 18. If two or more buildings enclosing a court in a tenement or apartment house are of different heights, the lowest one may be taken to determine the size of the court, provided it shall adjoin the court at least as much as twice the required minimum width of the court. —where buildings are of different heights.

1466 PAR. 19. The least width of every narrow, open court in a tenement or apartment house which opens to the outside air at the end only shall not be less than seventy-five per cent. of the minimum width of courts entirely enclosed by buildings as provided in this section. Such a court shall not be longer than six times its mean width. —least width of.

1467 —length of.

1468 PAR. 20. The bottom of all courts shall be paved with concrete at about the nearest street or sidewalk grade, as required by the provisions of Section 45 of this Article, for the open space adjoining rear tenements or apartment houses. —paving of.

1469 PAR. 21. Shafts entirely enclosed in tenements or apartment houses may be used to light and ventilate water closets, bathrooms and pantries, but pantries shall not ventilate Enclosed shafts.

into the same shaft with bathrooms and water closets. Shafts shall not be used to ventilate living rooms.

Shafts.

PAR. 22. Every shaft in a tenement or apartment house shall have at least the following dimensions: **1470**

| —least dimensions. | Sq. Ft. Min. Area 1 Con. nection Per Story. | | | Sq. Ft. Min. Area 2 Con- nections Per Story. | | | Min. Width. | 1471 |
|--------------------|---|-----|--|--|--|-------|-------------|-------------|
| | For 2 stories..... | 14 | | 21 | | 3 ft. | | |
| | " 3 " | 18 | | 27 | | 3 " | | |
| | " 4 " | 24 | | 36 | | 4 " | | |
| | " 5 " | 32 | | 48 | | 5 " | | |
| | " 6 " | 42 | | 63 | | 6 " | | |
| | " 7 " | 54 | | 91 | | 7 " | | |
| | " 8 " | 68 | | 112 | | 8 " | | |
| | " 9 " | 84 | | 136 | | 9 " | | |
| | " 10 " | 102 | | 163 | | 10 " | | |

—Stories to be counted in computing sizes.

PAR. 23. In fixing the number of stories for the purpose of determining the size of shaft the stories used for ventilating purposes are the only ones that need be counted. **1472**

—areas of.

PAR. 24. If more than two water closets or pantries ventilate into shafts, the areas shall be increased proportionately. **1473**

Opening at top.

PAR. 25. Such shafts shall be left entirely open at the top and proper division shall be made to drain them and to protect the adjoining rooms from dampness therefrom. In every tenement or apartment house there shall be **1474**

—doors to.

at the bottom of every shaft a door giving sufficient access to such shaft to enable it to be properly cleaned. **1475**

- 1476** PAR. 26. Every such shaft shall be provided with a horizontal intake or air duct at the bottom communicating with a street, yard or with a court, such air duct or intake to be not less than 4 square feet in total area and to be so arranged as to be easily cleaned. Intake at bottom of shaft.
- 1477** PAR. 27. All shaft walls in tenement or apartment houses shall be painted a light color or whitewashed once a year. Shaft walls—painting.
- 1478** PAR. 28. The construction of all shafts shall be subject to the approval of the Inspector of Buildings. Inspector to approve.
- 1479** PAR. 29. No tenement or apartment house basement shall be occupied for living purposes unless the ceiling is at least 4 feet 6 inches above the mean height of the sidewalk and ground on the open sides, and unless an open area 2 feet 6 inches wide or more into which windows shall open, shall be constructed outside of the building along one whole side or end. The floor of such an open area shall be made 6 inches lower than the concrete floor of the basement, and shall be finished with concrete the same as required for basement floors in Section 28 of this Article. The floors of such open areas shall also be drained. Ceilings for floors of basements. areas. —draining of.
- 1480**
- 1481**
- 1482** PAR. 30. No tenement or apartment house basement shall be so occupied unless the outside walls shall be made damp-proof. Such walls shall be furred with metal lath leaving a 1-inch air space, or with hollow terra cotta fire-proofing, and both the walls and ceilings shall be plastered with not less than two Walls to be damp-proof.
- 1483** Walls to be furred.

coats. If necessary to keep the basement perfectly dry, special damp-proofing construction shall be employed.

- | | | |
|---|--|------|
| Stairways. | PAR. 31. Every tenement or apartment house shall have at least one stairway extending from the first floor to the roof. If it is a non-fire-proof building and over three stories and a basement high, this one stairway shall be in a hallway entirely enclosed, with brick walls, and the floor and ceiling of each story and all stairs shall be made the same as required for fire-proof buildings. | 1484 |
| Lines of re- quired. | PAR. 32. Every tenement or apartment house over six stories and a basement high shall have two such stairways placed as far apart as practicable, and every apartment in the building shall have access to both of them. | 1485 |
| Capacity of stairways. | PAR. 33. No stairway shall be built to serve as access to more than sixty rooms. | 1486 |
| Inside stair- ways to base- ment. | PAR. 34. The inside stairway to the basement and in every non-fire-proof tenement building or apartment house more than two stories and a basement high shall be enclosed by brick walls and a self-closing door on each level made of metal or of wood covered with metal. If it is under a first-story stairs, it shall have a ceiling made entirely of incombustible materials separate and distinct in its construction from the first-story stairs. | 1487 |
| —when under first-story stairs. | | 1488 |
| Outside stair- ways. | PAR. 35. In all cases outside stairways to basement floors in tenements or apart- | 1489 |

- ment houses, except in frame buildings, shall be made entirely of incombustible materials, and if they are sheltered in any way, the shelter shall be made of incombustible materials. No closet shall be constructed underneath the first-story stairway of a tenement or apartment house unless it is a fire-proof building; but the space under the lower part of such stairway not over 6 feet high may be entirely enclosed. Otherwise, unless occupied by a basement stairway, the space under the first-story stairs shall be left entirely open.
- 1490** **1491**
- 1492** PAR. 36. All windows, transoms and sash doors used in the walls separating the hallways from other parts of non-fire-proof tenement buildings or apartment houses shall be glazed with wire glass.
- 1493** PAR. 37. All first-story halls shall open directly to public streets or alleys, and all such openings, doors and passageways shall be as wide in the clear as required for the stairways. If more than one stairway leads into a first-story hallway, such openings, doors and passageways shall be as wide in the clear as the combined width of such stairways.
- 1494**
- 1495** PAR. 38. The stairway leading down from the three top floors of every tenement or apartment house shall not be less than 3 feet wide in the clear. If the building is more than four stories and a basement high, the width of the stairs in the lower stories shall be increased not less than 4 inches for each additional story above the first floor; pro-
- Closets—where prohibited.
- Space under stairways.
- Windows, transoms and sash.
- Halls on first story.
- Width of openings in.
- Stairways—width of.
- width in lower stories.

vided, however, that no such stairway shall be required to be more than 4 feet 8 inches wide.

Handrail re-
quired.

PAR. 39. Every stairway in a tenement or apartment house shall have a hand rail substantially supported about 2 feet 6 inches above the floor, and every open side in floor or stairs shall be protected by a substantial railing or balustrade. **1497**

Width be-
tween stair
and hall
floor.

PAR. 40. Every stairway in a tenement or apartment house shall have an opening between the stair and the hall floor, and between the two flights of stairway where it returns upon itself of not less than 9 inches. **1498**

Risers.

PAR. 41. The risers of all steps in stairways of tenements or apartment houses shall be not more than $7\frac{3}{4}$ inches high, and the treads shall not be less than $9\frac{1}{2}$ inches wide, exclusive of the nosing. **1499**

Non-living
rooms.

PAR. 42. A room in a non-fire-proof tenement building or apartment house constructed for any use except that of habitation shall be completely separated from stairway halls and living apartments by solid brick walls, or, if frame buildings, by solid partitions. **1500**

Family apart-
ments—
rooms and
exits.

PAR. 43. Every apartment in a tenement or apartment house constructed for the use of one family shall have not less than two rooms, and every room shall have an exit to the hallway without passing through a bedroom. **1501**

Area of living
rooms.

PAR. 44. Every such apartment shall have one room with not less than 120 square feet of floor area, and no room with less than 70 square feet. **1502**

- 1503** PAR. 45. No room in any tenement or apartment house shall afford less than 400 cubic feet of air to each person over twelve years of age, and 200 cubic feet of air for each child under twelve years of age occupying the room. Cubical air capacity of rooms.
- 1504** PAR. 46. Alcove rooms shall conform to all the requirements of ordinary rooms. Alcove rooms.
- 1505** PAR. 47. Every apartment in a tenement or apartment house shall have a sink with running water, and shall have a separate water closet in a separate compartment within each apartment. Every water closet hereafter placed in any tenement or apartment house shall be placed in a compartment completely separated from every other water closet; such compartment shall not be less than two (2) feet four (4) inches wide, and shall be enclosed with plaster partitions extending to ceilings. Sinks.

Water closets.
- 1506** PAR. 48. Every floor of a tenement or apartment house having apartments for families shall be provided with not less than one water closet for each family, and every water closet, sink and other receptacle shall connect as directly as possible to the nearest sewer or to a cesspool if there is no sewer nearby. Compartments for.

Water closet accommodations for families.
- 1507** PAR. 49. The water supply, connections, ventilation and drainage of all such fixtures shall conform to Section 48 regulating plumbing of this Article. Water supply, ventilation and drainage.
- 1508** PAR. 50. If any tenement or apartment house be constructed before the laying of a public sewer in the street on which it stands, Privy wells or vaults.

- or where direct connection with a private sewer cannot be secured, any privy vault, well or cesspool constructed thereon shall be located at least 8 feet from any dwelling. And as soon as a public sewer shall be laid in the street, direct connection shall be made thereto in accordance with the provisions of this ordinance relating to plumbing. **1510**
- Sewer connections.**
- Drainage of yards and courts.** PAR. 51. The drainage of all yards and courts in such buildings to the street or alley shall be through passageways under the sidewalk. **1511**
- Floors of water closets, etc.** PAR. 52. The floors of all water closet rooms and 16 inches high on all walls thereof shall be made water-proof with asphalt, concrete, tiles, metal. or other water-proof material. **1512**
- Water supply pipes, etc.** PAR. 53. All pipes and fixtures pertaining to the water supply or sanitation of tenements or apartment houses shall be exposed. **1513**
- Water closets, to replace privies.** PAR. 54. Water closets connected to the sewer shall be substituted for privies in tenements or apartment houses erected prior to the date from which this Article takes effect whenever such sewer connection may be possible. **1514**
- Top stories of tenements, etc.** PAR. 55. The top story of every public hallway in a tenement or apartment house shall be lighted and ventilated by a skylight located over the stairway. Every such skylight shall have ridge ventilators and fixed louvres and not less than 20 square feet of glass surface. **1515**
- 1516**

- 1517** PAR. 56. Every public hallway in tenements or apartment houses over three stories and a basement in height shall be lighted and ventilated by windows opening directly to a street, alley, court or yard. Not less than 18 square feet of glass area shall be required in such windows in each story, and at least one window shall be not less than 5 feet 6 inches high.
- Windows in hallways of tenements, etc.
- minimum glass area.
- 1519** PAR. 57. All such windows shall be glazed with wire glass.
- wire glazing required.
- 1520** PAR. 58. In tenements or apartment houses not more than three stories and a basement in height such hallways shall be lighted by glazed sash giving light from the apartment.
- Tenements, 3 stories or less.
- 1521** PAR. 59. Any part of a public hallway cut off from the main room by a door or doors shall be lighted and ventilated the same as a separate hallway.
- Separated parts of hallways.
- 1522** PAR. 60. All living rooms in tenements or apartment houses, including all rooms except bathrooms, water closets and pantries, shall be lighted and ventilated by windows opening directly into the street, alley, court or yard. The total area of such windows shall be equal to one-tenth of the floor area of the room, and at least one window in every such room shall have not less than 12 square feet of area and the top of it shall be not less than 7 feet 6 inches above the floor.
- Living rooms in tenements, etc.
- Area of windows for.
- 1524** PAR. 61. All bathrooms, water closets and pantries in tenement or apartment houses shall be lighted and ventilated by windows
- Bath-rooms, water closets and pantries.

| | | |
|---------------------------------------|--|------|
| Minimum area of windows. | opening directly to a street, alley, open court or shaft. No such window shall be less than 3 square feet in area. | 1525 |
| Basement windows. | PAR. 62. Windows in basements shall conform to the requirements of Section 21 of this Article.* | 1526 |
| Top half to open. | PAR. 63. All windows in tenements or apartment houses shall be made so that the top half of the windows may be entirely opened for the passage of the outside air. | 1527 |
| Lighting of hallways, etc. | PAR. 64. A gas jet or an electric lamp shall be provided in every story of every tenement or apartment house hallway and in every bathroom and water closet of such a building. Ample facilities shall also be provided for lighting all apartments with gas or electricity. | 1528 |
| Wall paper. | PAR. 65. No wall paper shall be put on the walls of a tenement or apartment house unless all former wall paper shall have been previously removed and the walls and ceilings thoroughly cleaned. | 1529 |
| Cellar walls and ceilings. | PAR. 66. The cellar walls and cellar ceilings of every tenement or apartment house shall be thoroughly whitewashed or painted a light color at least once a year. | 1530 |
| Chimney flues and stove connections. | PAR. 67. In every tenement or apartment house each set of apartments shall be provided with not less than one chimney flue for stove connection. | 1531 |
| Alterations and repairs to tenements. | PAR. 68. No tenement or apartment house shall be altered or repaired, and no other building shall be changed to be used as a tenement or apartment house except such | 1532 |

Note.—Section 21 contains no such requirements.

alterations, repairs and changes shall be made to conform to the provisions of Section 45 of this Article.

- 1533** PAR. 69. Tenement or apartment houses erected prior to the date upon which this Article takes effect shall be changed to partially or wholly conform to the provisions of Section 45 of this Article, if it shall be required by the Inspector of Buildings. Existing tenements and apartments.
- 1534** PAR. 70. Owners of all buildings defined as tenements or apartment houses by this Article are required to register them with the Inspector of Buildings in such form as will be required by him within thirty days after the approval of this ordinance. And no Registration of tenements and apartments.
- 1535** building shall be occupied or constructed, altered or repaired to be used hereafter as a tenement or apartment house until the property has been registered as such. —proviso.
- 1536** PAR. 71. In case of transfer of any tenement house or apartment house, it shall be the duty of the grantor or grantee to file with the Inspector of Buildings written notice of such transfer, giving name of owner and date of transfer, said notice to be given within thirty days from date of transfer, under penalty of twenty-five dollars fine. Transfers of tenements and apartments.

Penalty.
- 1537** PAR. 72. Every tenement house or apartment house shall be inspected immediately after its completion, and after alterations, repairs or changes have been made, and at least once every year thereafter, by the Inspector of Buildings, or by an inspector acting under his direction, and a report of every such inspection shall be made and filed Inspections of tenements and apartments.

in the office of the Inspector of Buildings, and a record thereof shall be made in books kept for that purpose under regulations formulated by the Inspector of Buildings.

Defects and
impairments.

PAR. 73. If defects or impairments shall be found at any such inspection, the Inspector of Buildings shall determine what changes or repairs shall be made, and the owner or person managing or controlling the building in question shall thereupon make the changes or repairs as required, and in case such changes are not made within thirty days, both the owner and the person managing or controlling the building shall be liable to a penalty of not less than \$25.00 nor more than \$100.00 for each and every day thereafter that such changes or repairs shall not be made; provided, however, that the thirty day period limiting the liability shall be extended by the Inspector of Buildings whenever in his judgment it is necessary for the proper completion of such changes or repairs.

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Penalty.

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LODGING HOUSES AND HOTELS.

SECTION 46.

Application
of provisions
of section.

PAR. 1. Section 46 of this Article shall apply to all lodging houses and hotel buildings erected after the date from which this Article takes effect, and shall not apply to such buildings erected before said last-mentioned date, except as especially provided herein.

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Location,
height and
size.

PAR. 2. The location of lodging houses and their height and size shall conform to the provisions of Paragraphs 2 to 10, inclusive, of Section 45 for tenements.

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Section 45, Par. 72—73.

- 1542** PAR. 3. The height of stories, the courts, shafts, basements, halls, stairways and entrances, artificial light and the use of wall paper in lodging houses and hotel buildings shall conform to the provisions of Section 45 of this Article for tenement and apartment houses. General requirements as for tenements and apartments.
- 1543** PAR. 4. The ventilation and windows in lodging houses shall conform to the provisions of Section 45 of this Article for tenements. Ventilation and windows.
- 1544** PAR. 5. Every room used as a sleeping room in a hotel or lodging house shall have not less than 700 cubic feet of air space for each person, and every such room shall have an exit to a public hallway without passage through an intermediate room. Minimum air space for each occupant in sleeping rooms.
- 1545** PAR. 6. Every public hallway in a hotel shall be lighted and ventilated by windows opening directly to a street, alley, court or yard. Not less than 18 square feet of glass area shall be required in such windows in each story, and at least one window shall be 5 feet 6 inches high. Public hallways.
- 1546** PAR. 7. Every bedroom in a hotel shall be lighted and ventilated by a window or windows opening directly to a street, alley, court or yard, and the total area of such a window or windows shall be equal to one-tenth of the floor area of the room. At least one window in every such room shall have not less than 12 square feet of area, and the top of it shall be not less than 7 feet 6 inches above the floor. Glass area of windows.
- 1547** PAR. 8. Every bedroom in a hotel shall be lighted and ventilated by a window or windows opening directly to a street, alley, court or yard, and the total area of such a window or windows shall be equal to one-tenth of the floor area of the room. At least one window in every such room shall have not less than 12 square feet of area, and the top of it shall be not less than 7 feet 6 inches above the floor. Bedrooms.

Bathrooms and
water closets.
etc.

PAR. 8. All bathrooms and water closets shall be lighted and ventilated by windows opening directly to a street, alley, court, yard or shaft. No such windows shall be less than 1 foot wide between stop beads nor have less than 3 square feet of area. **1548**

Isolation
room—when
required.

PAR. 9. Every lodging house having accommodations for more than twenty persons shall be provided with an isolation room on the top floor, with not less than 1,000 cubic feet of air space. It shall be ventilated by a louvred skylight in the roof, and its walls, floor and ceiling shall be made water-proof. The room shall have a water closet for its own service, entirely separated by partitions extending to the ceiling, which shall be likewise of water-proof construction. Bathrooms shall have windows opening to a street, alley or yard, having an area not less than one-eighth of the floor area in the isolation room, and not less than 3 square feet in the water closet. **1549**

—Require-
ments for.

The room shall have a water closet for its own service, entirely separated by partitions extending to the ceiling, which shall be likewise of water-proof construction. Bathrooms shall have windows opening to a street, alley or yard, having an area not less than one-eighth of the floor area in the isolation room, and not less than 3 square feet in the water closet. **1550**

Alterations,
repairs and
changes.

PAR. 10. No lodging house or hotel erected prior to or subsequent to the date from which this Article takes effect shall be altered or repaired, and no other building shall be changed to be used as a lodging house or hotel, except such alterations, repairs and changes shall be made to conform to the provisions of Section 46 of this Article. **1551**

Inspections.

PAR. 11. Every lodging house and hotel shall be inspected immediately after its completion, and after alterations, repairs or changes have been made, and at least once **1552**

every year thereafter, by the Inspector of Buildings, or by an inspector acting under his direction, and a report of every such inspection shall be made and filed in the office of the Inspector of Buildings, and a record thereof shall be made in books kept for that purpose under the regulations formulated by the Inspector of Buildings.

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Reports of inspections.

PAR. 12. If defects or impairments shall be found at any such inspection, the Inspector of Buildings shall determine what changes or repairs shall be made, and the owner or person managing or controlling the building in question shall thereupon make the changes or repairs as required, and in case such changes are not made within thirty days, both the owner and the person managing or controlling the building shall be liable to a penalty of not less than \$25.00 nor more than \$100.00 for each and every day thereafter that such changes or repairs shall not be made; provided, that the thirty-day period limiting the liability may be extended by the Inspector of Buildings, in writing, whenever, in his judgment, it is necessary for the proper completion of such changes or repairs.

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Defects or impairments.

1555

Penalty for failure to repair defects.

MISCELLANEOUS BUILDINGS.

SECTION 47.

1556 PAR. 1. The provisions of this Article shall not apply to what are known as grain elevators. The location and construction of such buildings shall be subject to such conditions as the Inspector of Buildings may re-

Grain elevators excepted.

- Grain elevators
—proviso. quire. No grain elevator shall be constructed so as to endanger surrounding property. **1557**
- Exhibition
buildings. PAR. 2. Buildings erected for exhibition purposes not more than two stories high may have more than 20,000 square feet of floor area in single rooms; but such buildings shall be subject to such conditions as the Inspector of Buildings may require to safeguard public interests. **1558**
- Modifications
of provisions
of Article. PAR. 3. With the approval of the Mayor the provisions of this Article may be modified for the construction of such buildings by the Inspector of Buildings. **1559**
- Storage of
hazardous ar-
ticles—
buildings
for. PAR. 4. All buildings constructed for the storage (in quantity) of articles designated as specially hazardous in the classification of the National Board of Fire Underwriters shall be separated from all other buildings by a space of not less than 100 feet. No such building shall be more than two stories high, and combustible material shall not be used in its construction. No room in such a building shall have a greater area than 300 square feet. and all dividing walls shall be made of brick not less than 12 inches thick. **1560**
- Require-
ments for. and combustible material shall not be used in its construction. No room in such a building shall have a greater area than 300 square feet. and all dividing walls shall be made of brick not less than 12 inches thick. **1561**
- Construc-
tion of. PAR. 5. The construction of such buildings shall be subject to such conditions as the Inspector of Buildings may require to safeguard public interests. **1562**
- Sheds, struc-
tures, etc.,
on wharves. PAR. 6. Any sheds or structures on piers or wharves shall be made of non-combustible material in the construction of the outer walls and roofs thereof, including the doors and **1563**

windows, and all such structures shall be equipped with a complete system of piping and hose approved by the Inspector of Buildings to be used in case of fire.

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PAR. 7. All smokehouses hereafter erected shall be fire-proof buildings. An iron guard shall be placed over and 3 feet above the fire, and the hanging rails shall be made of iron. All smokehouses shall be entirely separate from other buildings.

Smokehouses.

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PAR. 8. No building shall be constructed or reconstructed, altered or repaired, to be used for any of the following purposes, within the limits of Baltimore,

Buildings to be erected only by authority of Mayor and City Council of Baltimore.

1. The confinement of insane children or adults.
2. The distillation of spirits of turpentine or varnish.
3. The manufacture of cotton wadding, laps or bats.
4. The manufacture of explosives.
5. The refining of petroleum or any of its products.
6. The rendering of fats, lards and like products.
7. A hair factory.
8. A lime kiln.
9. A tannery.
10. A refinery.
11. An abattoir.
12. A glue factory.
13. The manufacture of roofing materials of chemical composition.
14. Pulverizing charcoal.
15. Stock yards.
16. Poudrette works.

Unless the construction, alteration and repair thereof exceeding one-quarter of the value of the building be authorized by the Mayor and City Council of Baltimore.

Repairs to
such existing
buildings.

PAR. 9. Any repairs not exceeding one-quarter of the value of the building may be granted by the Inspector of Buildings where buildings are being used for such purposes at the time of passage of this ordinance.

1566

Notice of
application
for passage
of ordinance
for prohib-
ited construc-
tion.

PAR. 10. And before any ordinance shall be passed authorizing the construction, alteration and repair of such buildings at least ten days' notice shall be given by the person or persons or corporation interested or applying for such authority of his, their or its intended application for the passage of such ordinance by a publication to that effect of at least four insertions in two or more daily newspapers published in the City of Baltimore, specifying therein the lot of ground or premises upon which such building or other structure is to be erected, altered or repaired, and the purposes for which the same is intended to be used in sufficient detail to apprise the property owners or holders in the vicinity of the proposed improvement of the exact location and nature of the same.

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Penalty for
violations
provisions
of Section.

PAR. 11. Every offender against any of the provisions of this section shall forfeit and pay the sum of one hundred dollars for the first offense and the further sum of twenty-five dollars for each and every day thereafter during the continuance of such violation.

1568

1569 PAR. 12. The following buildings shall be limited as to location: Buildings
limited as
to location.

1. Hospitals and buildings for treatment of the feeble-minded.
2. Sanitariums.
3. Livery stables.
4. Sale and boarding stables.
5. Blacksmith shops.
6. Junk shops.
7. Brick, tile and terra cotta factories.
8. Stoneware and earthenware factories.
9. Paint factories.
10. Soap factories.
11. Candle factories.
12. Woodworking factories.
13. Lumber yards.
14. Planing mills.
15. Iron mills.
16. Foundries.
17. Breweries.
18. Distilleries.
19. Packing houses.
20. Gas works.
21. Acid works.
22. The manufacture of fertilizers.

1570 PAR. 13. No permit shall be given by the Inspector of Buildings for the erection of any such buildings without the approval of the Mayor, and, if such erection be approved by him, there shall be incorporated in the permit therefor such regulations regarding the location of said building as may be necessary, in the judgment of the Mayor, to properly safeguard the interests of the public. No **1571** permit for such buildings shall be issued unless at least ten days' notice of the application —Mayor to
approve per-
mits for.

therefor shall be published not less than four times in at least two daily newspapers in Baltimore city, and every such application shall be conspicuously posted upon the property and the application, accompanied by a sum sufficient to pay the cost of such notice and posting.

Water closets
in warehouses,
factories,
etc.

PAR. 14. Every warehouse, factory or other place where persons are employed shall be provided with water closet accommodations. Separate accommodations shall be provided for men and women. Such accommodations shall be adequate and easily accessible. All such accommodations shall be subject to the approval of the Inspector of Buildings.

1572

PLUMBING.

SECTION 48.

Permits for
—by whom
issued.

PAR. 1. All plumbing or drainage work shall be under the supervision of the Commissioner of Health, who shall issue permits therefor. It shall be the duty of the Commissioner of Health, upon the issuance of a permit for any work of new installation, altering or repairing of any plumbing or drainage work to at once furnish a duplicate copy of said permit to the Inspector of Buildings, who shall have full power to control any work that shall affect structural conditions of any house or structure of any kind.

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—Inspector to
receive
copy.

1574

Rules and
regulations
for plumbing.

PAR. 2. The Inspector of Buildings and Commissioner of Health shall formulate such rules and regulations (not inconsistent with this ordinance) for the work under this sub-

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title as shall be necessary for the public safety as affects their separate departments.

- 1576** PAR. 3. No plumbing or drainage work shall be constructed, altered or repaired in the City of Baltimore without first making application to and receiving from the Department of Health a permit, which shall be first signed by the Chief Inspector of Plumbing and countersigned by the Commissioner of Health or by his assistant. Applications for permits.
- 1577** PAR. 4. Blank forms of applications shall be furnished by the Department of Health to qualified plumbers. All applications must —Blank forms for.
- 1578** be signed by the owner of the premises, or his authorized agent and his address written under his signature. —signing of.
- 1579** PAR. 5. No plumbing system, no bathtub, wash-bowl, sink, water closet, urinal or other plumbing or drainage fixtures shall be installed, altered, repaired or removed; no drainage connection of any kind shall be made; no sewer, house drain, soil pipe, waste pipe or vent pipe shall be placed, connected, altered, repaired or removed in or about any building or structure within the corporate limits of the City of Baltimore, without a permit signed by the Chief Inspector of Plumbing and approved by the Commissioner of Health or his assistant. Permits from Chief Inspector of Plumbing required.
- 1580** PAR. 6. Before any plumbing or drainage work is undertaken the master plumber in charge of the work shall notify the Inspector of Plumbing when the work will commence. Such notice shall be made on blanks furnished by the Department of Health. Commencement of work—notice to Inspector.

Minor repairs
excepted.

PAR. 7. Nothing in this section, however, shall be construed to apply to the repairing of leaks in water pipes, provided there is no interference thereby with the original design of construction. **1581**

Penalty for
previous
work.

PAR. 8. Any person undertaking any plumbing or drainage work before the time stated in such notice shall be liable to a penalty of not less than \$5.00 for each and every offense. **1582**

Independent
connections
into each
building.

PAR. 9. Wherever possible, the plumbing and drainage system of every building shall be separately and independently connected (outside the building line of the property to be served without passing through other properties) with a public sewer or a private sewer. **1583**

Excavations on
private
streets, al-
leys or
property.

PAR. 10. All excavation in private streets, private alleys or on private property for sewer or drain connections shall conform to the rules and regulations of the Department of Health relating thereto, and a violation of these rules will subject the offenders to a penalty of \$5.00 and an additional penalty of \$2.00 per day for each and every day thereafter until the rules are complied with; but no fees for inspection shall be imposed. **1584**

Penalty.

1585

Inspection of
connections
for sewers
and cessa-
pools.

PAR. 11. All connections for sewers and cesspools on private property must be inspected by the Inspector of Plumbing before the trench is filled, whether the pipes have been run within the building line or not, and all appointments for said inspection must be made in advance, in order to avoid delays. Sewer pipes or main drains are not to be raised or **1586**

- 1587** lowered, or otherwise changed, except under the direction of the Inspector of Plumbing and by a permit from the proper department; but the approval of the Commissioner of Health must be obtained in every case. All connections with drain pipes or sewers must be made with Y branches and one-eighth or sanitary bends. Sewer pies or main drains.
- 1588** PAR. 12. Where a privy well or cesspool is to be connected to a public or private sewer it must be done by means of a pipe not less than 4 inches in diameter and to a point at least 5 feet outside of well. It must be of extra heavy cast-iron, with a sanitary tee in well, with bell end standing upright, and at least 18 inches of pipe on lower end to project down into water, and the upper end must be extended up as high as the surface of the ground or privy floor, as may be directed, and securely plugged for cleaning-out purposes in case of chokage, all to be put together in the manner herein provided for other cast-iron pipes. Connections to public or private sewers.
- 1589** PAR. 13. The use of a cesspool as a part of a plumbing and drainage system shall be abandoned as soon as possible after a public sewer is constructed upon any street or alley adjoining the premises in question. The use of a privy or privy vault shall likewise be abandoned as soon as possible after a public sewer has been constructed upon any public street, public alley or public way adjoining the premises in question. All such vaults and cesspools allowed to be used shall be so constructed that no odor or gasses can escape, either directly where it will be Cesspools -- when to be abandoned.
- 1590** Construction of vaults and cesspools.

- offensive or injurious, or through the fixtures connecting thereto. Every abandoned cesspool shall be emptied, cleaned, disinfected and permanently filled with fresh earth or other material approved by the Commissioner of Health. **1591**
- Abandoned cesspools.**
- Pipes.** PAR. 14. All pipes in a plumbing and drainage system shall be as straight and as direct between required points as possible. **1592**
- Ventilation by vent pipes.** PAR. 15. Every drainage system shall be thoroughly ventilated by lines of vent pipes. Every trap shall be protected from syphonage and back pressure by such ventilating pipes. **1593**
- Drains for cellar floors.** PAR. 16. Drains for cellar floors connecting to a plumbing and drainage system shall not be permitted unless they can be separately connected to a trap with a permanent water seal. **1594**
- Sub-soil drains.** PAR. 17. Every sub-soil drain depending upon a public sewer for an outlet shall first discharge into an open catch-basin. No such discharge shall connect inside of the building line to a plumbing and drainage system except by a back-water valve. **1595**
- Floor or special drains.** PAR. 18. No floor drain or any special drain shall be constructed within a building as part of its plumbing and drainage system unless it is, in the opinion of the Inspector of Plumbing, necessary. No such drain shall be constructed unless it can be provided with a trap in which a water seal can be permanently maintained. **1596**
- traps for.** **1597**

- 1598** PAR. 19. All water supply pipes leading from the city's mains from Water Department's stop at every building must be of galvanized iron, lead or brass, of proper strength and size, both their quality and construction to be subject to the approval of the Inspector of Plumbing, but in no case shall the pipes be smaller than the following schedule: $\frac{1}{2}$ inch for a six-room house, exclusive of bath and pantry, and $\frac{3}{4}$ inch for larger buildings, and increased in proportion to the requirements of the fixtures contained therein.
- 1599** —minimum size of.
- 1600** PAR. 20. No water pipes shall be run in any case to any fixture in any building less than $\frac{1}{2}$ -inch diameter, except short connections to washstand basins or other small fixtures, and in case of a private house or where there is more than one bathroom, pipes for hot and cold water of not less than $\frac{3}{4}$ of an inch must be carried to each bathroom with $\frac{1}{2}$ -inch branches to the various fixtures. The construction and location must be approved by the Inspector of Plumbing from a practical and satisfactory standpoint.
- 1601** Minimum diameter for fixtures.
- 1602** PAR. 21. All joints of wrought iron or brass pipe must be made by standard threads and proper fittings, and on lead pipe and where lead and iron or brass are joined, by plumbers' wiped joints, in the former case using brass thimbles at the junction; no cup or flange joints shall be allowed.
- 1603** PAR. 22. In the construction of ranges the connection between water-backs of same
- Pipe joints.
- Construction and location.
- Range, water-back and boiler connections.

- Cold water tube. and range boilers and other water-heating apparatuses, no pipe less than $\frac{3}{4}$ of an inch in diameter shall be used, and every such boiler must be provided with a tube in the cold water pipe extending down to within 6 inches of the bottom of the said boiler, and said tube must not be less than $\frac{3}{8}$ inch in diameter and shall be provided with a hole $\frac{1}{8}$ of an inch and not more than 3 inches from the top of said boiler. This tube will carry the cold water down to the proper position in the boiler and prevent its mixing with the hot water stored in the top thereof, and where practicable the top of these boilers should not extend closer than within 12 inches of the ceiling. **1604**
- Inspection and approval of work; penalty. PAR. 23. The construction of this work to be subject to the inspection and approval of the Inspector of Plumbing, with the penalties for violation of these rules of \$5.00 and an additional penalty of \$2.00 for every day they shall be allowed to remain in violation. **1605**
- Stop cocks or valves. PAR. 24. There shall be a stop cock or a valve on every main supply at the point where it enters the building, and separate stops for every bath or toilet room on every set of fixtures where they are in sets, or for such fixtures where they are separate, with the exception of kitchen and pantry sinks, which may be controlled by other stops, and in every case there must be a separate stop on each water closet connection and proper provision must be made in every case for draining out the dead water from pipes and other fixtures when the water is turned off. **1606**
- Separate stops. **1607**

- 1608** PAR. 25. If the water pressure is not sufficient to furnish a supply to all the fixtures in a plumbing and drainage system freely and continuously, a house supply tank shall be provided sufficient in size to afford an ample supply of water for all such fixtures at all times. Ample provision shall be made for the supply of such tanks, and if the water pressure is not sufficient, power or hand pumps shall be provided for the purpose in all tenements, apartment houses, lodging houses, hotels, warehouses, buildings used for manufacturing purposes and public or store buildings.
- 1609** —water supply for.
- 1610** PAR. 26. All such plumbing work as referred to in these rules and regulations shall be done subject to the supervision of the Inspector of Plumbing, under the direction of the Department of Health.
- 1611** PAR. 27. No such plumbing work as is referred to in these rules and regulations shall be performed in any other way than in strict conformity to such orders and directions as may be prescribed by the Chief Inspector of Plumbing, with the approval of the Commissioner of Health.
- 1612** PAR. 28. Any master plumber who shall violate any of these rules and regulations shall not be entitled to receive any further permits or have work inspected under any permits he may have already secured, or execute any further work in the City of Baltimore until the said violations shall have been fully corrected and the rules respected. It shall be the duty of the Commissioner of

House supply tanks.

Supervision of plumbing work.

Work subject to orders and directions of Inspector and Commissioner.

Penalty for violations by Master Plumbers.

Health or other proper officers to refuse him any further permits or inspections until the violations have been corrected.

Work without
permit; pen-
alty.

PAR. 29. Any person or persons who individually or through others shall construct, erect, alter or repair such plumbing or drainage in violation of these rules and regulations, without first obtaining such permit, shall be subject to a fine of \$25.00, and if it shall be found that any work covered by these rules and regulations shall be constructed, erected, altered or repaired contrary to these rules and regulations of the Department of Health and in such manner as to be detrimental to health, then the person or persons so offending shall be subject to further fine of \$2.00 for every day that such work shall continue in that condition after receiving notice thereof from the Department of Health, such fines to be collected as other fines for the violation of city ordinances are collected. **1613**

Continuing
penalty for
defective
work.

PAR. 29. Any person or persons who individually or through others shall construct, erect, alter or repair such plumbing or drainage in violation of these rules and regulations, without first obtaining such permit, shall be subject to a fine of \$25.00, and if it shall be found that any work covered by these rules and regulations shall be constructed, erected, altered or repaired contrary to these rules and regulations of the Department of Health and in such manner as to be detrimental to health, then the person or persons so offending shall be subject to further fine of \$2.00 for every day that such work shall continue in that condition after receiving notice thereof from the Department of Health, such fines to be collected as other fines for the violation of city ordinances are collected. **1614**

Certificate of
approval of
work.

PAR. 30. Whenever such works as herein referred to shall have been done in conformity with the provisions of this ordinance, it shall be the duty of said Inspector of Plumbing to give the master plumber doing said work, a certificate to the effect that said work has been inspected and approved; said certificate shall be signed by the Inspector of Plumbing and by the Commissioner of Health or his assistant. **1615**

Notices, certi-
ficates and
records.

PAR. 31. It shall be the duty of the Inspector of Plumbing, under the direction of the Commissioner of Health, to sign and issue all notices and certificates, to keep **1616**

- a daily record of his work, including all notices and applications received, violations of these rules and regulations, and all other matters which may pertain thereto; to make weekly and monthly reports and an annual report of the operations of his office to the Commissioner of Health.
- 1617** Reports.
- 1618** PAR. 32. He or his assistant shall inspect all houses in course of erection, alteration or repair, and also when complaint is made to the Department of Health of any plumbing or drainage work done heretofore in or about
- Inspection of building work.
- 1619** Requirements for.
- any house in the city or in any private street, private alley or on private property, as often as may be necessary, and shall see that all plumbing, drainage or sewerage work is done in accordance with the provisions of these rules and regulations.
- 1420** PAR. 33. It shall be the further duty of the Inspector of Plumbing or his assistant, under the supervision of the Department of Health, to see that all work covered by these rules and regulations is executed by properly qualified persons, under Article 4 of the Public Local Laws of Maryland, and to
- Work to be done by competent persons.
- 1621** Reports of violations.
- report any violations of said Article 4 to the proper officers for their action.
- 1622** PAR. 34. The term master plumber, within the meaning of these rules and regulations, is a person who holds a master plumber's certificate, issued by the authority contained in Article 4 of the Public Local Laws of Maryland, containing his business address and who represents the industry of plumbing and who engages in or works at the plumbing business on his own account
- Master Plumber—definition of.

| | | |
|----------------------------------|--|------|
| Store of. | or directs other workmen in this line, and who has an established place of business in the City of Baltimore other than his residence or the buildings on which he may be employed. This rule shall not, however, prevent a master plumber from having his store and dwelling combined, provided the store fronts on a public thoroughfare and with proper signs displayed. | 1623 |
| Certificates of Master Plumbers. | PAR. 35. It shall be the duty of every person desiring to do business as a master plumber, or to engage in conducting the business of plumbing or house drainage work in the City of Baltimore, to exhibit his certificate of competency as a master plumber to the Department of Health, who will then register him in its book to be provided for that purpose, at the Health Department, giving the full name, residence, and place of business, and in case of removal from one place to another in said city, to make change in said register accordingly. It shall be the duty of every such person to display at his or their place of business in a conspicuous place a sign with full registered name or names, and the words, "Registered Plumber" or "Plumbers," in letters not less than two (2) inches in size. | 1624 |
| —Residence of, etc. | | 1625 |
| —Signs of | | 1626 |
| Inspections. | PAR. 36. Every plumbing and drainage system shall be inspected immediately after its completion, and before any of the pipes, fixtures, connections or other features of its construction have been enclosed with other materials of construction or covered from view, by the Inspector of Plumbing or by one of his assistants acting under his direction, and a report of every such inspection | 1627 |
| Reports of | | 1628 |

shall be made and filed in the office of the Inspector of Plumbing, in accordance with the rules and regulations of the Department of Health relating thereto.

- 1629** PAR. 37. If the test fail, or if defects or imperfections of any kind shall be found at any such inspection, the inspector shall determine and direct what shall be done, and the master plumber in charge of the work shall provide the materials and do the work required, and in case such changes are not made and the work so required is not done within thirty days from the date of the written notice of such inspection, the master plumber and the person in charge of the work shall be liable to a penalty of \$5.00 for non-compliance therewith and a further penalty of \$2.00 per day for each and every day thereafter that he or they refuse or fail to make the changes or to do the work required. In case of failure or defects.
- 1630** Penalty.
- 1631** PAR. 38. The plumbing and drainage systems of every building used as a tenement, apartment house, lodging house, hotel, theatre, public building, warehouse or for manufacturing purposes shall be inspected once each year. Inspection once a year.
- 1432** PAR. 39. All material and all workmanship required in the installation of plumbing and drainage systems shall comply with the regulations of the Department of Health and the Inspector of Plumbing in relation thereto. Material and workmanship.
- 1633** PAR. 40. Before any portion of the soil, waste or drainage system of any building shall be laid, constructed or altered, there shall be filed by the master plumber with Plans of systems, etc.

| | | |
|-----------------------------------|--|------|
| Approval of plans, etc. | the Commissioner of Health, for the use of the Inspector of Plumbing, a plan thereof showing the said system entire from its connection with the main sewer or cesspool, including its outlets and connections in the building and its extensions up to and through roof as ventilator, together with the location of all traps, ventilating pipes, etc., all of which must be recommended by the Inspector of Plumbing and approved by the Commissioner of Health before any portion of the work shall be executed. | 1634 |
| Permits required. | PAR. 41. No house or premises will be allowed to be connected with any sewer without a permit first obtained from the Commissioner of Health or City Engineer, as the law may require. The conditions of said permit must be strictly complied with, and the name of the master plumber who is to execute the work must be written therein. This regulation applies to all sewers, whether public or private, wherever situated; but when it is desired to make a connection with a private sewer, the written consent of the owner of said sewer must first be obtained; said connection to be made in conformity with the rules of the Department of Health or the City Engineer, as the case may be, under the supervision of the Inspector of Plumbing and subject to his approval if it be on private property, and under the supervision of the City Engineer if it be on public property. The above applies to both new and old property. All plumbers are required to notify the Commissioner of Health of any and all extensions or alterations of ventilation and drain fixtures | 1635 |
| —conditions of. | | 1636 |
| —private sewer connections. | | 1637 |
| Inside plumbing alterations, etc. | | 1638 |

and pipes made inside of buildings, so that the same may be examined.

- 1639** PAR. 42. All permits for tapping sewers in private streets, private alleys or private ways which shall be approved by the Commissioner of Health shall be on conditions that the recipient take all risk of damages that may result therefrom and be subject to the supervision and approval of the Inspector of Plumbing. Tapping sewers in private property.
- 1640** PAR. 43. And the Inspector of Plumbing, under the supervision of the Department of Health, shall regulate the quality, size and kind of materials to be used in the construction of said work. Quality, size and kind of materials.
- 1641** PAR. 44. All drain pipes laid in public streets, public alleys or public ways, shall be extra heavy cast iron, galvanized wrought iron, brass or vitrified terra cotta. Drain pipes—in public streets, etc.
- 1642** PAR. 45. All drain pipes, sewer pipes, soil pipes or waste pipes laid in private streets, private alleys or private ways, when laid under ground shall be of extra heavy cast iron, galvanized wrought iron, brass or vitrified terra cotta, but no terra cotta shall in any case, whether on public or private property, be laid in the ground within 5 feet of any building or arcaway wall, unless it is laid below the level of the foundation thereof, in which case it may be allowed if laid on an approved concrete foundation at least 4 inches in thickness. —in private streets, etc.
- 1643** Terra cotta drains.

Soil, waste
and drain
pipes.

PAR. 46. All soil, waste and drain pipes of any character, when laid under ground, must be of extra heavy cast or galvanized wrought iron, brass or lead, to a point at least 20 feet away from any building or areaway wall when laid on private property, except in the case of private streets or private alleys, where, if it is laid below the bottom of the cellars of surrounding property, after going 5 feet away from the nearest foundation wall, it may be made of terra cotta, if laid upon solid original ground; and in the cases of marshy or filled-in ground, it must be laid on a concrete footing, as provided in Paragraph 50 of this section. A violation of the above conditions will subject the offender to a penalty of \$5.00 for each violation, and an additional penalty of \$2.00 for each and every day said violation is allowed to remain uncorrected after notice; said penalties to be collected as other penalties for other violations of the foregoing rules and regulations.

1644

Construction
of.

1645

Penalties.

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Fall of sewer,
etc., pipes.

PAR. 47. No house sewer, drain, soil or waste pipe shall be laid with a less fall than 1 foot in 50 feet, except in extreme cases, when the Inspector of Plumbing, or his assistant, as the case may be, may use some discretion when he or they find it impossible to obtain said fall. All changes in direction to be made by curved pipes or one-eighth or one-sixteenth sanitary bends.

1647

Curves and
bends.

1648

Steam ex-
haust; boiler
and drip
pipes.

PAR. 48. No steam exhaust, boiler blow-off or drip pipe shall be connected with the house drain or sewer. Such pipes must first discharge into a proper condensing tank, and from this a proper outlet to the house

1649

- 1650** sewer. In low pressure steam systems the condensing tank may be omitted, but the waste connection must be otherwise as above required, and in either case the connection to main sewer must be made on outside of main house traps. Low pressure steam systems.
- 1651** PAR. 49. All joints in vitrified drain pipes to be made with mortar composed of one part best hydraulic cement and two parts of clean, sharp sand. Joints in vitrified pipes.
- 1652** PAR. 50. Whenever, in the opinion of the Inspector of Plumbing or his assistant, as in the case of marshy or filled-in ground, he may require a concrete footing of one part hydraulic cement and two parts of sharp sand and five parts of broken stone, brick or other suitable material to a depth of 4 inches, placed under all terra cotta or earthenware drains; same to be placed in short sections, so that pipes may be thoroughly imbedded in same before the concrete sets. All joints to be thoroughly swabbed out, as each section of pipe is laid to guard against any particles of the cement projecting on the inside of the drain pipes. Concrete footings for earthenware drains.
- 1653** Swabbing of joints.
- 1654** PAR. 51. An extra heavy double ventilated running trap of cast or wrought iron of same size as soil or drain pipes, with openings to be carried up to the surface of the ground of the same materials, in one of which will be placed a full size trapscrew ferrule and the other a ventilating opening, all of design in compliance with the rules of the Department of Health and subject to the supervision of the Inspector of Plumbing; said trap shall be placed at an accessi- Traps for drains.

- Location of traps.** ble point if the sewer enters from the rear; trap, when possible, should be placed 20 feet from the rear of the building when it forces to the front at the curb line, in which cases the vent and clean-out should be carried straight up to the surface. Where this is not possible another location may be selected for the trap, but the vent must be carried a safe distance away from the doors and windows. **1655**
- Inlets for air.** **PAR. 52.** Every house sewer or drain shall be provided with a fresh-air inlet on house side of runing trap of not less than 4 inches in diameter, of form to be approved by the Inspector of Plumbing, under the directions of the Department of Health; said inlet to be located as far from any door or window as practicable, and to be protected by a suitable perforated cover or return bend, as may be most suitable. **1656**
- location of.** **1657**
- Soil pipes under build-ings.** **PAR. 53.** When necessary to lay a soil pipe under a building, such pipe shall be of extra heavy cast or wrought iron. In every case where a stack of soil, waste, ventilating or rain-water pipe is constructed on the inside of the outer wall of any building and said pipe is over 40 feet in height, the excess over that limit must be of extra heavy cast or wrought iron or brass — that is to say, accounting from top of stack above the roof, measuring down through the building 40 feet, what is known as standard pipe will be allowed to be used, but all the pipe in excess below that point to a point at least 20 feet away from any building or area wall when **1658**

- 1659** laid on private property, (and if it extends into private or public streets, it must be extended to the curb line, where the main house trap and vent shall be situated,) must be of heavy cast or wrought iron or brass pipe with leaded or screwed joints, properly caulked or screwed together, as the case might be, and shall be so located as to be readily accessible for inspection. Stacks for soil, etc., pines.
- 1660** Soil pipe shall not be less than 4 inches in diameter and shall extend above the roof of the house, and at least 15 feet from all windows, and this extension shall be at least 4 inches in diameter. Soil pipe—diameter and extension of.
- 1661** PAR. 54. Where the pipe passes under the walls of the house there shall be a relieving arch to prevent the pipe from being broken by settling of walls. Pipe under walls.
- 1662** PAR. 55. The weight of cast-iron pipe used under ground, or wherever else required, shall be what is known as extra heavy and of the following weights per lineal foot: Weights for cast iron pipe.

| | |
|-------------------|---------|
| For 2 inches..... | 5½ lbs. |
| “ 3 “ | 9½ “ |
| “ 4 “ | 13 “ |
| “ 5 “ | 17 “ |
| “ 6 “ | 20 “ |
| “ 7 “ | 27 “ |
| “ 8 “ | 33½ “ |
| “ 10 “ | 45 “ |
| “ 12 “ | 54 “ |

| | | |
|--------------------------------|---|------|
| Galvanized wrought iron pipes. | PAR. 56. It is to be understood, however, that galvanized wrought iron, brass or lead pipes of approved weight may also be used for waste or ventilating or rain-water conductor pipes when desired, all to be approved by the Chief Inspector of Plumbing. | 1663 |
| Coating of pipes. | PAR. 57. All iron soil and sewer pipes to be coated outside and inside with asphaltum or red lead. All changes in direction shall be made with curved pipes, one-eighth or sanitary bends, and all connections with Y branches or Tee Y's. All connections of lead with iron pipes shall be made with heavy brass ferrules and plumbers' wiped joints, or extra heavy combination lead and brass bends or ferrules full size of iron pipe caulked into the iron with lead. No cup joints will be permitted on any part of the work. | 1664 |
| Bends and Y's. | | 1665 |
| Connections. | | 1666 |
| Joints. | | 1667 |
| Construction of pipes. | PAR. 58. All soil, waste and ventilation pipes shall be constructed inside of buildings, except in special cases of buildings constructed previous to the passage of this law, in which event the consent of the Department of Health must be first obtained. | 1668 |
| Deck screws, etc., required | PAR. 59. Every soil and waste pipe must be provided with a brass deck screw or trap-screw ferrules at the bottom of each stack before leaving the building. of the following sizes: | 1669 |
| —for soil pipes, etc: | PAR. 60. Those or soil pipes must not be less than 4 inches in diameter, and for waste and rain water pipe not less than 2 inches in diameter, all to be accessible. | 1670 |

- 1671** PAR. 61. Rain-water leaders, when placed inside of the outer wall of any house, shall be of iron, lead or brass, with leaded, screwed or wiped joints. Rain water leaders.
- 1672** PAR. 62. Leaders must be separately trapped with cast-iron running traps so placed as to prevent freezing, and if allowed to enter the main drain must do so outside of the main house trap. —trans for.
- 1673** Rain-water leaders must not be used as soil, waste or vent pipes, nor shall any such pipe be used as a leader. —use of restricted.
- 1674** PAR. 63. All joints in cast iron drain, soil, and waste or leader pipes to be thoroughly packed with hemp or oakum, and poured with molten lead and properly caulked. —Joints of pipes.
- 1675** PAR. 64. All soil, drain, waste and supply pipes shall be concentrated as much as possible, protected from exposure to frost, and shall be so located as to be readily accessible for inspection, either by exposing the pipes to view or by providing a movable covering in every case. Pipes to be concentrated.
- 1676** PAR. 65. Every soil, waste or drain pipe, when under ground shall be of extra heavy cast iron, galvanized wrought iron, lead or brass, to a point 20 feet from the nearest building or areaway wall, except as provided for in Paragraph 46 of this section. Soil, etc. pipes underground.
- 1677** PAR. 66. No trap shall be placed on or at the foot of vertical soil or waste or rain pipes. Traps; where forbidden.

Flues; prohibited use.

PAR. 67. No brick, sheet metal or earthenware flue shall be used as a sewer or soil pipe ventilator or trap vent. **1678**

Fittings.

PAR. 68. All cast iron soil and waste pipe fittings must be Y branches, sanitary tees, one-eighth or long sanitary bends. No short bends or tees will be allowed. All other cast iron fittings must be of sanitary designs. **1679**

—pattern and designs of.

Wrought iron and brass fittings for soil and waste or rain pipe must be of recessed pattern and of sanitary design, and to be approved by the Inspector of Plumbing. **1680**

Cesspool traps for drains.

PAR. 69. Cesspool traps for drains, from cellars and areaways, where such appliances are set, must be provided with a cast iron trap beneath them, and when in exposed places must be set at a depth to protect them from freezing, and provision for a permanent water-seal shall be provided. **1681**

Soil, etc., pipes—connections with sewer or cesspools.

PAR. 70. In every case where soil and waste pipes connect with a sewer or cesspool or public or private stream or harbor, the following rules must be observed: If the traps for the various fixtures are connected directly into the stack or within 3 feet thereof and approved traps used, no trap or back ventilating will be required. These traps, however, must connect near as possible to the fixtures, and if the traps are at a greater distance than 3 feet, they must each be backed vented as hereinafter provided for other traps. In every case where traps are more than 3 feet from the stack, the vent shall be as follows: The vent for water closet traps to be 2 inches in diameter, and **1682**

Vent specifications.

1683

for traps under other fixtures at least $1\frac{1}{4}$ inches in diameter, providing said vents are not over 25 feet in length, in which case the $1\frac{1}{4}$ inch vent must be increased to $1\frac{1}{2}$ inches, and the 2 inches to $2\frac{1}{2}$ inch or 3 inches, as the case may require; for instance, almost any number of water closet trap vents may be connected into a 3 inch vent stack, and in case of bath tubs and other fixtures a 2 inch main vent will be sufficient for as many as twelve $1\frac{1}{4}$ inch or even $1\frac{1}{2}$ inch vents from that many fixtures. These vents may be carried out through the roof separately, or may be connected into the main soil or waste pipe ventilating stacks above the highest fixture; in the latter case, the said stack must be made one size larger from the point of said connection up to and through roof and general ventilator.

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Vents.

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PAR. 71. In the case of waste or drain pipes of any character to or from any building which may be permitted to discharge their contents on the surface of the ground, if they are over 5 feet in length, they will be required to be trapped and ventilated as other wastes or drains are required to be trapped, but they will not require any back vents except in the case where the fixture is over 8 feet from the line or stack into which they drain, and they must be of the same materials as is provided for other wastes and drains in these rules and regulations.

Waste or
drain pipes;
traps for.

1686

PAR. 72. The size of traps must not be less than those given in the following table, and must be of heavy lead, cast iron, brass or earthenware:

—Size of
traps.

| | |
|-------------------------|----------|
| Water closets | 4 inches |
| Sinks | 2 " |
| Washtrays | 2 " |
| Slop sinks | 2 " |
| Urinals | 2 " |
| Bathtubs | 1½ inch |
| Basins | 1¼ inch |

Cleanouts. PAR. 73. And all traps to have a brass trapscrew clean-out of proper size. All traps must have a water seal of at least 1½ inch. **1687**

Traps. PAR. 74. All water closets, sinks, basins, washtrays, etc., shall have suitable and approved traps placed as near as practicable to said fixtures. **1688**

**Water closets—
outside air
ventilation
required.** PAR. 75. No water closets will be allowed to be constructed in any sleeping-room or any apartment or vault which is not in direct communication with the outside air, by means of a window or air-shaft, having an area of at least 4 square feet for the admission of fresh air and light. **1689**

**Water closets—
outside
building.** PAR. 76. Where water closets are to be placed outside the building the use of straight non-absorbent hoppers will be permitted without flush tanks, but with proper water supply, to be approved by the Chief Inspector of Plumbing. **1690**

Waste pipes. PAR. 77. Waste pipes from bathtubs, washstands and sinks shall not be connected with the trap of a water closet. **1691**

**Soil pipes—
flushing of.** PAR. 78. Means shall be provided for thoroughly flushing all the soil pipes, water closets and urinal fixtures. A separate **1692**

flushing tank, or approved flushometer, the tank to hold at least five gallons of water, must be provided for every water closet, and for urinals at least three gallons, which is constructed for use inside of any building.

- 1693** The flush pipe from the tank to closet must not be less than $1\frac{1}{4}$ inch, and urinals 1 inch in diameter and every water closet must have an earthenware bowl with a flushing rim. No long, straight hoppers or offset hoppers or pan, or plunge closets shall be used within any building.

Flush pipes.

- 1694** PAR. 79. All water closets shall have a heavy lead or brass floor connection, securely caulked into soil pipe. If lead, by a combination on heavy lead and brass bend or ferrule, with a cast brass floor flange, not less than $\frac{1}{4}$ of an inch in thickness, securely soldered to lead, and with a mixture of red and white lead of sufficient thickness to secure a tight joint, when same is bolted to flange of closet, and if the connection is by all brass connection the floor plate must be screwed to the brass ferrule and bolted to the closet flange, as above described.

Water closet and soil pipe connections.

- 1695** PAR. 80. Where water supply is not ample for proper flushing of water closets, etc., the Inspector of Plumbing may, in his discretion, order the erection of a tank or cistern, into which water may flow at night or into which it may be pumped.

Additional water supply for water closets.

- 1696** PAR. 81. All safes and refrigerators shall be drained by special pipes, but not directly connected with the house drain or main sewer.

Safes and refrigerators—drainage.

| | | |
|-------------------------------------|--|------|
| Washtrays and sinks. | PAR. 82. Wooden laundry washtrays, kitchen or other sinks are prohibited inside of buildings. They shall be of non-absorbent material. | 1697 |
| Notice for inspection. | PAR. 83. The Inspector of Plumbing shall be notified promptly in writing by the plumber, and upon blank forms to be provided for that purpose, when the plumbing work in any building is completed and ready for inspection. All inspections shall be | 1698 |
| Inspections and tests. | made as soon as possible after such notification, using either water, smoke or peppermint test, but no part of the plumbing or drainage work of any building shall be covered or in any manner hidden from view until after such inspection shall have been made and a certificate of approval issued by the Commissioner of Health. | 1699 |
| Tests of plumbing systems. | PAR. 84. The entire plumbing and drainage system within the building, and 5 feet exterior thereto, must be tested by the plumber in the presence of the Inspector of Plumbing or his assistant, under a water, peppermint or smoke test, as directed. All | 1700 |
| —requirements to facilitate tests. | pipes must remain uncovered in every part until they have successfully passed the test. The plumber must securely close all openings as directed by the Inspector of Plumbing. | 1701 |
| Condemnation of defective material. | PAR. 85. The Inspector shall promptly condemn and order the removal of any defective material, or of any plumbing or drainage work done other than in accordance with these rules and regulations. | 1702 |
| Prosecutions. | PAR. 86. Prosecution for the infringement of the provisions of these rules and | 1703 |

regulations shall be made by the Commissioner of Health or the Inspector of Plumbing, as may be directed.

GAS FITTING.

SECTION 49.

- 1704** PAR. 1. All gas fitting, piping, fixtures and appliances of all kinds shall be under the direction of the Inspector of Buildings and subject to his approval. Inspector to supervise.
- 1705** PAR. 2. No work or materials embraced under Section 49 shall be done or placed in or upon any building, structure or premises without application shall have been first made to and permit obtained from the Inspector of Buildings; said application shall Applications for permits.
- 1706** be made upon blanks specially prepared for that purpose in the office of the Inspector of Buildings, and shall contain full information of the work to be done, and, where necessary, a plat or drawing shall accompany the application describing the outlay of the work, provided that in cases of new building, if the drawings being examined in the Inspector's office for the general building permit show the outlay of gas fitting appliances and the specifications describe the same, then the general permit for building will be sufficient to proceed with the work, but in all other cases of installation, altering, addition or repairing, a special permit shall be obtained, as required by this ordinance. —Requirements relating to.
- 1707** PAR. 3. No installation of any kind in connection with gas piping or fitting shall be enclosed, covered or obscured in any way Inspection before concealing work, etc.

until the same shall have been inspected, tested and certified to by the Inspector of Buildings.

Rules and regulations for.

PAR. 4. Rules and regulations governing gas fitting and appliances shall be formulated by the Inspector of Buildings, who shall submit the same for approval to three practical persons connected with such business, who shall pass upon said rules and regulations within fifteen days after being submitted, otherwise they shall stand as prepared by the Inspector. **1708**

Sizes of pipe.

PAR. 5. The size of pipe used to be not less than **1709**

| Diameter of Pipe. | Maximum Length of Pipe in Feet. | Maximum Number of Burners Allowed. |
|-----------------------|---------------------------------|------------------------------------|
| $\frac{3}{8}$ | 20 | 2 |
| $\frac{1}{2}$ | 30 | 4 |
| $\frac{3}{4}$ | 50 | 9 |
| 1 | 70 | 18 |
| 1 $\frac{1}{4}$ | 100 | 32 |
| 1 $\frac{1}{2}$ | 150 | 50 |
| 2 | 200 | 103 |
| 2 $\frac{1}{2}$ | 300 | 180 |
| 3 | 450 | 281 |
| 4 | 600 | 580 |

Risers, branches, etc.

PAR. 6. The minimum size of pipe used for the riser shall be $\frac{3}{4}$ inch, for the horizontal branches $\frac{1}{2}$ inch, for vertical branches $\frac{3}{8}$ inch. **1710**

$\frac{3}{4}$ -inch pipe.

PAR. 7. Not more than 6 feet of $\frac{1}{4}$ inch pipe shall be used for one burner. **1711**

Supply pipe.

PAR. 8. The main supply pipe shall start from the front wall of the cellar, wherever practicable, with a T on end, with bottom outlet plugged. **1712**

- 1713** PAR. 9. Gas appliances for heating and cooking to be attached to a gas existing supply when installed by the Consolidated Gas Electric Light & Power Co. shall not require the permit previous to installation as herein called for, but all such installation by said company shall be reported in writing to the Inspector of Buildings, as will be specified in the rules and regulations to be adopted governing gas fitting and appliances.
- Heating and cooking appliances—installation of.

ELECTRICAL WORK.

SECTION 50.

- 1714** PAR. 1. The drawings accompanying every application for a permit for electrical work and the statements therewith shall indicate the character of the construction, in every particular in which the provisions of the law or ordinance or the rules and regulations of the Inspector of Buildings specifies distinct requirements, as far as it is possible to do so and in form as may be required by the Inspector of Buildings. but drawings need not be submitted where installations are less than 100-16 C. P. lamps or their equivalent, unless specially requested by the Inspector of Buildings.
- Drawings accompanying applications.
- 1715** PAR. 2. The drawings shall include a working plan of the floors showing the location of the outlets, distributing boards, switchboards, switches, generators and motors, and the size and run of all wires. They shall also include a vertical feeder diagram.
- specifications for drawings.
- 1716** PAR. 3. After final inspection of electric wiring, or of any device or apparatus requiring the use of electricity in any building,
- Certificate of inspection.

- Contents of certificate. or other structure, or of the erection and construction of any such wiring, device or apparatus, the Inspector of Buildings shall issue a certificate of inspection to the owner thereof, or to his representative. This certificate shall describe the wiring, device or apparatus in question, together with its location and the date of its inspection. It shall state that the requirements of the law or ordinance have been complied with, and that at the time of the inspection the wiring device or apparatus appeared to be in good order and safe condition; but the certificate shall not be construed to lessen the liability or responsibility of the owners or the person in charge thereof, nor to attach any liability or responsibility for its safe condition or use to the City of Baltimore. The certificate shall be signed by the Inspector of Buildings. **1717**
- Cutting in without certificate prohibited. PAR. 4. No current shall be cut into any installation unless the owner thereof or his representative presents a certificate of inspection signed by the Inspector of Buildings. **1718**
- Daily lists of installations. PAR. 5. The Inspector of Buildings shall prepare for the use of Incorporated Electric Power and Electric Contractors daily lists of the electric installation and apparatus which have been inspected and found to comply with all the electrical requirements, giving the certificate number and location and such other information that will be of use to those interested. There shall also be prepared by the Inspector of Buildings a daily list of all electrical installation and apparatus which have been condemned and **1719**
- Daily list of condemned apparatus. **1720**

found not to comply with city requirements, giving permit number, name and location and such other information that will be of use to the individual interested.

- 1721** PAR. 6. This list shall be placed in the Department of the Inspector of Buildings, where those who are only personally interested may have access to the same. Who may inspect lists.
- 1722** PAR. 7. Electric current may be cut into any installation made by Incorporated Electric Companies engaged in supplying electric service prior to the issuance of certificate of inspection, provided an authorized Electrical Inspector has been on the premises and approved same. When no certificate required.
- 1723** PAR. 8. Temporary certificates are to be issued by the Inspector of Buildings when in his judgment the circumstances so require. Temporary certificates.
- 1724** PAR. 9. No generator shall be placed in a room in which a hazardous business or process is carried on, nor in any place where it will be exposed to inflammable gases, dust or other particles of flying material. No generator shall be located in a damp place. Generators in hazardous places forbidden.
- 1725** PAR. 10. Every generator shall be insulated on a floor or base frame, which shall be prepared by painting or filling to prevent absorption of moisture and to insure cleanliness. If such isolation is impracticable the Inspector of Buildings may permit its omission, in which case the frame of the generator shall be permanently and effectively grounded. Floor insulation for generators.

- Generators—
—excessive
current.** PAR. 11. Every constant, potential generator shall be protected from excessive current by a safety fuse, switch or equivalent device of approved design in each lead wire. **1726**
- makers's
name plate.** PAR. 12. Every generator shall be provided with a name plate, giving the maker's name, the capacity in volts and amperes, and the normal speed in revolutions per minute. **1727**
- switch-
boards for.** PAR. 13. Every generator exceeding three K. W. or a potential of one hundred and twenty-five volts shall have an approved switchboard and current and potential indicating devices in circuit. **1728**
- Grounds.** PAR. 14. Adequate means shall be provided for indicating grounds. **1729**
- Conductors—
—location
of.** PAR. 15. Conductors from generators to switchboards, rheostats or other instruments shall be in plain sight or readily accessible. They shall have an approved insulating covering, and they shall be kept so rigidly in place that they cannot come in contact with each other. Bus bars may be made of bare metal. In all other respects such conductors shall be installed with the same precautions as required for wires carrying a current of the same volume and potential. **1730**
- installation
of.** **1731**
- Switch-
boards—
require-
ments for.** PAR. 16. The position of every switchboard shall be determined with a view of reducing the danger of fire to a minimum. It shall be made of a non-combustible material, with no current carrying parts within 16 inches of the floor or within 18 inches of the ceiling. **1732**

- 1733** PAR. 17. Every switchboard shall be accessible from all sides with a space of not less than 18 inches in the clear, except it may be placed against a brick or a stone wall when all the wiring and connections are fixed to the face of the board. Switch-boards to be accessible.
- 1734** PAR. 18. In wiring switchboards the ground detector, voltmeter and pilot lights shall be connected to a circuit of No. 14 fire and weather-proof covered wire that is protected by a standard fuse block. Such a circuit shall not carry over six hundred watts. —wiring of.
- 1735** PAR. 19. Instruments and attachments, resistance boxes, equalizers, motor rheostats and other electrical devices shall be mounted on a base of incombustible material not less than $\frac{7}{8}$ of an inch in thickness. Bases of instruments, etc.
- 1736** PAR. 20. Every electric motor shall be wired under the same precautions required for wiring generators, and for wires carrying a current of the same volume and potential. The leads or branch circuits for direct current motors shall be designed to carry a current of fifty per cent. greater than that required by the rated capacity of the motor in alternating current motors the leads or branch circuits shall be designated to carry a current in proportion to style, type or make of the motor, but shall not in any case be less than one hundred per cent. greater than the rated capacity of motor to provide for the overloading of the motor without unduly heating the wires. Electric motors—wiring of.
- 1737** PAR. 21. All motors operating on circuits over two hundred and fifty volts E. M. F., for passenger elevator service, shall be —leads or branch circuits for.
- 1738** PAR. 21. All motors operating on circuits over two hundred and fifty volts E. M. F., for passenger elevator service, shall be —fire-proof rooms for.

enclosed in approved fire-proof rooms, and all such motors installed in any place where such motors will be exposed to inflammable gases, dust or other flying particles of materials, must be especially protected against such dangerous contact.

Cut-outs.

PAR. 22. The motor and resistance box shall be protected by a cutout, and controlled by a switch plainly indicating whether "on", or "off." The switch and rheostat shall be located within sight of the motor. **1739**

Ceiling fan motors.

PAR. 23. When combined with ceiling fans, motors shall be hung from insulated hooks, or else there shall be an insulator between the motor and its support. **1740**

Automatic circuit breakers on high voltage service.

PAR. 24. Each and every service transmitting a current of over two hundred and fifty volts E. M. F., shall be provided with an approved automatic circuit breaker on each outside leg or wire of said service, and shall be placed at a point where the said service enters the building and properly protected. **1741**

Current for light and power.

PAR. 25. When current for light and power is taken from primary or secondary batteries the same general regulations shall be observed as apply to similar apparatus fed from generators developing the same potential. **1742**

Secondary batteries.

PAR. 26. All secondary batteries shall be mounted on non-absorptive, non-combustible insulators, such as glass or thoroughly vitrified and glazed porcelain. **1743**

- 1744** PAR. 27. Transformers shall not be placed inside of any building except central or sub-stations in overhead districts of the city, and in underground districts transformers shall not be placed inside of any building except central or sub-stations, unless enclosed in a fire-proof closet subject to the rules of the Inspector of Buildings. Transformers shall not be placed on the outside wall of any building, unless by special permission of the Inspector of Buildings. Transformers.
- 1745** PAR. 28. All outside wires shall have an approved insulating covering. All the wires shall have an insulation equal to that of the conductors they confine. Outside wiring insulation of.
- 1746** PAR. 29. Every building in which electric wiring is installed shall have an independent service from the street or alley unless otherwise permitted by the Inspector of Buildings. Independent service in buildings.
- 1747** PAR. 30. Outside wires shall be placed so that moisture cannot form a cross connection between them, and not less than a foot apart, if practicable, and not in contact with any substance other than their insulating supports. Outside wires; placing of.
- 1748** PAR. 31. Service blocks shall be covered over their entire surface with at least two coats of water-proof paint. Service blocks.
- 1749** PAR. 32. All wires shall be supported by means of petticoat insulators of glass or porcelain. Porcelain knobs or cleats and rubber hooks shall not be used. Supports for wires.
- 1750** PAR. 33. All outside wires shall be spliced or joined so as to be both mechanic- Splicing of outside wires.

ally and electrically secure without solder. The joints of outside wires shall then be soldered to insure preservation, and covered with an insulation equal to that on the conductors. All joints shall be soldered, even if made with some form of patent splicing device.

Wires entering
buildings.

PAR. 34. Where they enter buildings all outside wires shall be mechanically protected and have drip loops on the outside, and holes through which the conductors pass shall be bushed with non-combustible, non-absorptive insulating tubes slanting upward toward the inside. **1751**

Telegraph and
telephone
wires.

PAR. 35. Telegraph, telephone and other similar wires shall not be placed on the same cross-arm with electric light or power wires, and when placed on the same pole with such wires the distance between the two inside pins of each cross-arm shall not be less than 26 inches. **1752**

Metallic cable
sheaths .

PAR. 36. The metallic sheaths on cables shall be permanently connected to "earth." **1753**

Wire, mini-
mum for
outside
lines.

PAR. 37. No wire smaller than No. 12 B. & S. hard drawn copper shall be used on any outside lines, except that No. 16, twisted in pairs for service wires, may be used from a distributing pole when the distance is not more than 150 feet. **1754**

Insulation of
wires.

PAR. 38. All telephone, telegraph, district messenger, call bell and fire and burglar alarm wire shall be insulated. **1755**

Spacing of
wires.

PAR. 39. The distance between electric wires of different classes shall be as regulated by the rules and regulations of the Inspector of Buildings. **1756**

- 1757** PAR. 40. The distance between fastenings on poles shall be as approved by the Inspector of Buildings. Spacing of fastenings.
- 1758** PAR. 41. All aerial and underground conductors which are directly connected to aerial, telegraph, telephone and other similar wires shall be provided with some approved protective device or lightning arrestor, which shall be located as near their point of entrance to a building as possible, and not less than 6 inches from curtains or other inflammable material. The ground Lightning arresters.
- 1759** wire or the protective device shall be made of copper not smaller than No. 16 "B. & S." It shall have an approved rubber insulating covering and it shall run in as straight a line as possible to a good, permanent ground, to be made by connecting to a water pipe system. —grounding of.
- 1760** PAR. 42. The grounding of all overhead and underground wires shall be subject to the rules of the Inspector of Buildings. Grounding of wires.
- 1761** PAR. 43. In alternating current secondaries of a three-wire system the neutral wire of the distributing system shall be grounded. All transformers, secondaries, etc., shall be provided with a neutral tap or connection permanently grounded, and grounded once in every 500 feet for underground systems. Neutral wire and tap.
- 1762** PAR. 44. The ground connections for central stations, transformers, sub-stations and banks of transformers, shall be made through metal plates buried in coke below permanent moisture level, and connection shall also be made to all available under- Ground connections.

- ground piping systems. For individual building services the ground connection may be made the same way, or it may be made to water piping systems running into the building. This connection may be made by carrying the ground wire into the cellar and connection on the street side of meters, main cocks, etc., but connection shall never be made to any pipes which form part of a gas service. All such ground wires shall be of same size and carrying capacity as neutral wire grounded. **1763**
- Grounding individual building services.**
- Inside wires.** PAR. 45. Inside wires shall not be smaller than No. 14 B. & S. except as otherwise provided. Tie wires shall have an insulation equal to that of the conductors they contain. **1764**
- Circuits for heating apparatus.** PAR. 46. All heating apparatus of any description must be attached to an independent branch circuit of its own, unless otherwise specially permitted by the Inspector of Buildings. **1765**
- Splicing of inside wires.** PAR. 47. All inside wires shall be spliced or joined so as to be both mechanically and electrically secure without solder. They shall then be soldered to insure preservation, and the joint shall be covered with an insulation equal to that of the conductors. **1766**
- Wires in concealed work.** PAR. 48. There shall be no splicing of wires in concealed work of any character, except it be made in an iron box and that box placed in an accessible place. **1767**
- Stranded wires.** PAR. 49. Stranded wires shall be soldered before being fastened under clamps or binding screws, and when they have a con-

ductivity greater than a No. 12 B. & S. copper wire they shall be soldered, even if made with some form of patent splicing device.

- 1768½** All inside wires shall be separated from contact with walls, floors, timbers or partitions through which they may pass by non-combustible, non-absorptive, insulating tubes, such as glass or porcelain. Bushings shall be long enough to bush the entire length of the whole in one continuous piece.

Insulation of
inside wires
—by tubes.

- 1769** PAR. 50. All inside wires, except wires concealed in conduits, shall be kept free from contact with gas, water or other metallic piping, or any other conductors or conducting material which they may cross, by some continuous and firmly fixed non-conductor, creating a separation of at least 1 inch. They shall be so placed in wet places that an air space will be left between conductors and pipes in crossing of at least 1 inch.

—from metal
pipes, etc.

- 1770** PAR. 51. All electric light and power wires or any wires entering the building from an outside service in elevator shafts shall be encased in approved metal conduits. No push button for bells, gas lighting circuits or the like shall be placed in the same wall plate with a switch controlling electric light or power wiring. Where possible switch boxes shall be put in place before the plastering is done. No wires for bells, gas lighting or signal systems shall be permitted to run in the same tube or elevator cables with electric light and power wires.

Electric light
and power
wires—man-
ner of wir-
ing.

- 1771** PAR. 52. In breweries, packing houses, stables, cold storage buildings and in all other buildings specially subject to moisture

—when to be
run open.

Electric light
and power
wires—
—when on
cleats and in
mouldings.

and acid fumes or to any dust of a combustible nature, electric light and power wires shall be run open. In all other buildings used for manufacturing purposes, and in dwellings, apartment houses, tenements, lodging houses, hotels, office buildings and warehouses, they may be run on porcelain cleats, or in wood mouldings, when in dwellings where mouldings or approved steel conduits shall be used. Basements and cellars of all other buildings approved steel conduits shall be used.

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—wiring of in
certain
buildings.

PAR. 53. In old buildings which are used or altered to be used as dwellings, and apartment houses having accommodations for not more than four families, and with or without stores or other business places in the basement or first floor, electric light and power wires may be concealed on porcelain cleats in tubes, and when in bath or storage rooms, approved metal conduits shall be used.

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Underground
service
tubes.

PAR. 54. Where an underground service enters a building through tubes, the tubes shall be tightly closed at the outlets to prevent gas from entering the building through such channels.

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Lead covered
wires.

PAR. 55. Lead covered wires or cables shall not be carried through the walls into a building unless they are encased in underground conduits. The lead covering of the wires and cables used in such service shall not exceed more than 24 inches or, in the discretion of the Inspector, beyond the end of the conduit, the same shall not end in a wet or damp place or where they will be liable to mechanical injury, or where they will not be easily accessible. All combustible ma-

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- terial shall be kept from their immediate vicinity. The lead sheath of wires or cables shall not under any condition be carried near enough to switches, lamps, etc., for persons to readily touch the lead covering or any part of the devices that form a portion of the circuit. From a point where the lead ceases to the cut-outs or switches, the insulated conductor from which lead covering has been stripped shall be properly supported by approved insulators or otherwise properly protected. No service wires shall be run through any walls from one building to another. All service wires for underground service shall be encased in underground conduits.
- 1776** Safety precautions for lead-covered wires.
- 1777** Service wires.
- 1778** PAR. 56. A switch shall be placed on every service wire, either overhead or underground, in a readily accessible place, and as near as possible to the point where the wire enters the building, the location and protection to be as approved and directed by the Inspector of Buildings. It shall not be more than 7 feet above the floor and shall not be placed in an unoccupied portion of the building. —switches on.
- 1779** It shall not be placed in the immediate vicinity of combustible material or where it will be exposed to inflammable gases, dust or other particles of flying materials. It shall be mounted on slate, marble, porcelain or some other approved material and shall be arranged to disconnect all the wires in the building. —prohibited placing of such switches.
- 1780** PAR. 57. No switch shall be a single pole, except when the circuit which it controls supplies not more than six sockets with an equivalent of not more than 330 watts. Switches.

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| Switches— flush and snap. | Where flush switches are used they shall be enclosed in iron boxes. Snap switches shall be mounted on a porcelain sub-base for open cleat or knob work, or on a hard wood sub-base for moulding work. | 1781 |
| Fuses. | PAR. 58. Fuses shall be double pole and shall be mounted on marble, slate, porcelain or other approved material. | 1782 |
| —for service wires and in circuits. | PAR. 59. A fuse shall be placed in every service wire at the point where it enters the building. A fuse shall also be placed in circuit at each point where the cross-section or the conductor decreases in mains and feeders. | 1783 |
| —to protect generators and branch circuits. | PAR. 60. A fuse shall also be placed so as to protect every generator or motor. A fuse shall also be placed so as to protect every branch circuit. | 1784 |
| Tampering with electri- cal appara- tus. | PAR. 61. It shall be unlawful for any person or persons to unduly tamper with any electric current, carrying device or wire, or with any fuse or safety device of any kind or any substitute or improper device that may have been improperly placed there, under penalty of \$25.00 fine or imprisonment of not less than 30 days in Jail. | 1785 |
| Penalty. | | |
| Arc lamps. | PAR. 62. Arc lamps used for outside purposes on streets or alleys may be suspended as approved by the Board of Estimates. Inside of buildings arc lamps shall be placed not less than 7 feet between bottom of lamp and floor, provided the same has the approval of the Inspector of Buildings, and they shall be suitably protected and carefully isolated from inflammable material. | 1786 |
| Hand feed arc lamps. | PAR. 63. Hand feed arc lamps of all types shall be operated by competent men | 1787 |

when in service. Every such lamp shall be provided with a double pole enclosed switch at the lamp, with high grade approved cored carbons. Every such lamp used in a theatre shall be of the box type, protected by a spark arrester.

- 1788** PAR. 64. No open arc lamp shall be used in any public hall or place of amusement. All such lamps shall be provided with a hood or projection not less than 12 inches to protect the lamp from coming in contact with scenery or curtains. The spark arrester shall be made of mica or of a wire screen mesh composed of not less than eighteen wires to the square inch. All arc lamp rheostats shall be protected by wire screens in such a manner as to protect surrounding woodwork, scenery, curtains, etc., which may come in contact with them from overheating. Open arc lamps.
- 1789** PAR. 65. When any portion of an arc lamp extends above the ceiling line the opening shall be lined with a double box, made of No. 16 iron with an air space of not less than $\frac{7}{8}$ of an inch between the inner and outer box on all sides, the lamp to be suspended from the inner box. —Rheostats for.
—above ceiling line.
- 1790** PAR. 66. Not more than two outlets shall be permitted in any one circuit when the number of lights is unknown. Outlets in circuits.
- 1791** PAR. 67. The dead and discarded wires of any system shall be removed from a building or poles where live electric light or power circuits remain in service. Dead and discarded wires.
- 1792** PAR. 68. All electric installation shall be kept in good repair and free from grounds. Good repair required.

Alteration of
apparatus
after inspection
forbidden.

PAR. 69. Fuses shall not be altered or removed after inspection; no device, apparatus or attachment thereto shall be changed after inspection; no wires or other apparatus shall be attached or in any manner connected with an electric system after it has been inspected without a permit therefor, and no material, device, apparatus or detachments thereto which have been rejected by the Inspector of Buildings, or by an inspector acting under his direction shall be used.

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Inspection of
work re-
quired.

PAR. 70. Every installation of electric wires, or of any device or apparatus requiring the use of electricity in any building or other structure, shall be inspected immediately after work of installation is completed by the Inspector of Buildings, or an inspector acting under his direction. All such construction which must be covered or hidden from view before the work of installation is completed, so that its proper inspection will be obstructed, shall be inspected during the progress of the work. No portion of any such installation shall be covered or hidden from view before it has been inspected.

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Inspection of
covered
work.

PAR. 71. If any electric wiring or any device or apparatus requiring the use of electricity in any building or structure shall be defective or out of repair, or is suspected of being so, the Inspector of Buildings, or an inspector acting under his direction, shall inspect such construction.

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Defective
work or ap-
paratus.

PAR. 71. If any electric wiring or any device or apparatus requiring the use of electricity in any building or structure shall be defective or out of repair, or is suspected of being so, the Inspector of Buildings, or an inspector acting under his direction, shall inspect such construction.

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Inspections—
regulation
of.

PAR. 72. All inspection of electrical work and wiring, and of devices and apparatus requiring the use of electricity, shall be made

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in accordance with the rules and regulations of the Inspector of Buildings thereto. If tests are required, the electrical contractor or the person in charge of the work shall make the tests in the presence of the Inspector. A report of every such inspection shall be made and filed in the office of the Inspector of Buildings.

- 1798** PAR. 73. If the tests fail, or if defects or impairments of any kind shall be found at any such inspection, or if repairs are needed the Inspector of Buildings shall determine and direct what shall be done, and the electrical contractor or the person in charge of the work, or the owner or his representative, shall provide the materials and do the work required. If such materials are not provided and the work required is not done within thirty days of the written notice of such inspection. the electrical contractor and the person in charge of the work, and the owner and his representative, shall severally be liable to a penalty of \$100.00 for non-compliance therewith, and \$25.00 per day for each and every day thereafter that he refuses to provide the materials to do the work as required. The Inspector of Buildings may extend the thirty day period, if, in his judgment more than thirty days is required to furnish the materials or to do work as required.
- 1799**
- 1800** PAR. 74. If, in his judgment, the defects or repairs that are needed are such that the safety of the building or of other buildings is endangered. he shall notify the electrical contractor or the person in charge of the

Failure of tests.

Remedy of defects or impairments; penalty for failure.

Emergency action in cases of danger.

Summary action by
Inspector.

work, or the owner or person in charge of the building, in writing, and if, in his judgment, it is necessary, he may condemn the wiring or the device or the apparatus in question, and order its removal or the discontinuance of the current. If the wiring, device or apparatus in question is not removed as required, or the current is not discontinued, the Inspector of Buildings may proceed as in the case of dangerous or partially destroyed buildings, as provided in Section 16 of this Article.

1801

Where requirements
of Code
may be suspended.

PAR. 75. The Inspector of Buildings shall have the authority to exempt from the operation of the provisions of this subdivision of this Article in relation to inspections, any building or group of buildings, the electric light and power equipment of which are in regular charge of a competent electrician. such exemption shall be only for a stated period to be named in a certificate to be issued by the Inspector of Buildings, not exceeding six months, and may, after examination by the Inspector of Buildings, be renewed from time to time, and such certificate of exemption may be revoked at any time by the Inspector of Buildings.

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Obstructions
to inspection
—removal
of.

PAR. 76. The Inspector of Buildings shall have power to remove any obstruction or covering necessary to the complete inspection of any defective electrical construction, or construction suspected of being so, and if such construction is found to be defective or in need of repair, a lien for the expense of removing such obstructions or covering may be created and enforced in the same way as provided in Section 16 of this Article.

1803

1804 PAR. 77. The erection and construction of electric wires, or of any device or apparatus contemplating the introduction or use of electricity over or upon any avenue, street, alley or other public property, shall be inspected by the Inspector of Buildings, or by another inspector under his direction. All such inspection shall be made in accordance with the rules and regulations of the Inspector of Buildings.

Electric wires
over or
upon streets,
etc.

1805 PAR. 78. No wires for electric light, power, telephone, telegraph, call service, nor for any other purposes, shall be attached to any roof, chimney, fire-escape or cornice of any building or structure of any kind, and when aerial lines run over private property, they shall have a clearance between any roof or platform of any kind of not less than eight (8) feet, and in no case shall any such wire be within 3 feet of any structure or part thereof, except where a wire enters a building for uses in said house.

Aerial lines
not to be
attached to
roof, chimney,
fire escape
or cornice.

1806 PAR. 79. All wire or wires of any system attached to a pole on any street, lane or alley, shall be attached by means of standard approved glass or porcelain insulators, supported on a standard cross arm, excepting telephone and telegraph distributing poles having ring system and telephone, telegraph and like aerial cables, but shall be attached to the approval of the Inspector of Buildings.

Porcelain insu-
lators for
street wiring.

1807 PAR. 80. Every owner or persons managing or controlling the management of any building in which electric wiring devices or apparatus of any kind are installed, who

Inspections—
penalty for
obstructing.

shall refuse to permit the inspection herein provided, or who shall interfere with such inspection, or shall fail to afford the means for such inspection, shall be liable to a penalty of not less than \$50.00 nor more than \$200.00 for each and every violation thereof.

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| Materials and work. | PAR. 81. All materials and all work required in the installation of electric wiring devices or apparatus of any kind shall comply with the regulations of the office of the Inspector of Buildings in relation thereto. | 1808 |
| Central and sub-stations—exceptions as to. | PAR. 82. The provisions of this ordinance, under the sub-title of "Electrical Work," shall not apply to central or sub-stations with a capacity of over 2,500 K. W. | 1809 |
| Rules and regulations. | PAR. 83. The Inspector of Buildings shall make rules and regulations for electrical work and materials not inconsistent with this ordinance. | 1810 |

MOTION PICTURE MACHINES AND LAMPS.

SECTION 51.

| | | |
|------------------------------|---|------|
| Equipment for— | PAR. 1. All motion picture machines shall be required to be equipped as follows: | 1811 |
| —automatic shutter required. | PAR. 2. All machines shall be equipped with an automatic device or shutter which will effectually cut off all rays of light from the lamp on the film. | 1812 |
| —requirements for shutter. | PAR. 3. This automatic device or shutter shall be so constructed that it will act under all conditions when the speed of the film passing in front of lens is less than 50 feet per minute. | 1813 |

- 1814** PAR. 4. A suitable shield shall be provided and attached to each and every machine that will effectually protect the film from the rays of the lamp; this shield shall cover the space between the shutter or automatic device to the upper magazine, and from shutter or automatic device to base of machine in such manner that no portion of the film shall be exposed to the rays of the lamp, except through the aperture for showing the picture when the automatic device or shutter is up. Shields for films.
- 1815** PAR. 5. Each and every machine shall be provided with a suitable fire-proof box or magazine for both upper and lower reels, with approved take-up gearing and the openings in the magazine for the film shall be provided with some efficient device to prevent the flames following the film into magazines. Magazine for reels.
- 1816** PAR. 6. The lamp, if electric, gas or oil, shall be enclosed in a suitable iron box with a gravity shutter to completely shut off all rays of light passing through lens, and shall have a ventilated hood; this hood shall be lined with a fire-proof insulating material, and the bottom of box shall be lined with same material; the backs of all boxes shall be effectually closed, all doors shall have spring hinges, and the apertures for the wires and hose shall be properly bushed and protected. No acetylene gas shall be used in any way for operating picture machines. No inflammable material or insulation shall be carried into this box. Lamp—appurtenances for use with.
- 1817** PAR. 7. All rheostats and resistance coils shall be properly protected with close mesh iron screens or guards. Rheostats and coils.

Fire-proof
room or
cabinet for.

PAR. 8. No machine for moving pictures can be operated in any other way than in a fire-proof room or cabinet. **1818**

REMOVAL OF BUILDINGS.

SECTION 52.

Requirements
for such
buildings.

PAR. 1. Every building which is moved from one position to another shall conform to all the requirements of this Article for a new building of similar construction in the proposed location. **1819**

Use for new
purposes.

PAR. 2. No such building shall be used for a new purpose after its removal, unless it shall conform to the requirements of this Article in relation to the new use proposed. **1820**

Over streets,
alleys,, etc..

PAR. 3. The removal of any building from one location to another, over street, alley or other public property, shall be made in accordance with the rules and regulations of the office of the City Engineer. **1821**

Over private
property.

PAR. 4. No building shall be moved from one location to another over private property without the consent of the owner thereof or his representative. **1822**

Trees and im-
provements
not to be
injured.

PAR. 5. No tree or other improvement upon private property shall be removed, injured, used or disturbed in the removal of a building from one location to another without the consent of the owner thereof or his representative. **1823**

Same as to
those on
public
property.

PAR. 6. No tree, post, pole or other street construction outside of the building line shall be removed, injured, used or disturbed in the removal of a building from one loca- **1824**

tion to another without the consent of the owner of the adjoining property or of his representative.

TEMPORARY AND DETACHED STRUCTURES.

SECTION 53.

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|-------------|---|--|
| 1825 | PAR. 1. Sheds may be erected for the storage of materials, for the shelter of workmen or animals from sun and rain, for cut-door manufacturing and for temporary purposes, subject to the restrictions imposed by the provisions of this sub-division of this Article, and they shall not be constructed for any other purpose. | Purposes for which erection allowed. |
| 1826 | PAR. 2. Sheds must not be over 15 feet high, and they shall not be lathed or plastered or otherwise finished as for a habitation. | Height of, etc. |
| 1827 | PAR. 3. When made of wood or any combustible material a shed shall not be placed within 10 feet of any other structure. | Wood, etc., sheds. |
| 1828 | PAR. 4. No shed shall have an area of more than 2,500 square feet. | Maximum area. |
| 1829 | PAR. 5. Shed walls and shed roofs, erected within the fire limits, except for temporary purposes, shall be made entirely of combustible materials. | Walls and roofs of. |
| 1830 | PAR. 6. Small houses and sheds made of wood, required for offices or for the storage of tools or materials during the erection of any building or other construction, may be constructed on the premises or on adjoining premises, but no such construction shall be | Temporary sheds pending construction work. |

erected upon a street or alley, or other public property, without the approval of the Inspector of Buildings and of the City Engineer.

Location, inspector to approve.

PAR. 7. The location of platforms, stands, observation seats and other temporary structure made of wood, shall be approved by the Inspector of Buildings, and shall be stated in the permit therefor. **1831**

Construction of sheds.

PAR. 8. The construction of all such structures shall be inspected and approved by the Inspector of Buildings, or by and inspector acting under his direction. **1832**

SIGNS.

SECTION 54.

Support and location of.

PAR. 1. No sign shall be supported from the sidewalk or from a point outside the sidewalk. Signs may be carried upon the front of a building or suspended therefrom; but no such sign projecting into street or alley shall be placed within 10 feet of the sidewalk, nor extend more than 2 feet beyond the street or alley line, except that electric signs may be permitted to extend over 6 feet beyond the building line at all locations approved by the Board of Estimates or covered by special ordinance of the Mayor and City Council, **1833**

Special cases.

except Baltimore street, from Liberty street to Jones' Falls. On the said part of Baltimore street electric signs may be permitted to extend beyond the building line to the same extent as the cornice or fire-escape. **1834**

- 1835** PAR. 2. Every sign shall be substantially supported. The construction and hanging of the sign shall be in accordance with such requirements of the Inspector of Buildings as may apply generally in building construction, and a factor of safety of six is to be used in connection with the hangings, fastenings and connections. Supports—factor of safety.
- 1836** PAR. 3. Every sign higher than 20 feet from the street shall be made entirely of metal. Vertical signs may be permitted, subject to the revocation of the permit on proper objection from the adjoining property owners, due notice of such objection being given to the party to whose sign objection is made, not less than ten days in advance of the revocation of the permit, such vertical sign being permitted if the sign letters are mounted on a wire grille or an angle iron framework, and provided that the sign shall be installed within the middle third of the building, unless the building be upon a street corner. Metal signs—when required; vertical signs.
- 1837** PAR. 4. Signs projecting more than 2 feet from the building line are to be pivoted so that they may be swung flat against the building quickly, if required by the Fire Department. No part of a sign shall be so placed as to interfere with the ingress and egress from the windows in case of fire. Every electric sign shall be provided with a switch on the outside of the building for the use of the Fire Department in case of fire. Pivoting of signs and miscellaneous requirements.
- 1838** PAR. 5. All signs, whether electric or otherwise, shall be subject to a minor privi- Franchise fee for.

lege franchise to be issued by the Inspector of Buildings, the charge for the franchise being at the rate of five (\$5.00) dollars for 2 feet or less of projection from the building line, and ten (\$10.00) dollars for all over 2 feet of projection.

Permits for signs.

PAR. 6. The Inspector of Buildings may issue permits for signs, subject to the later confirmation by the Board of Estimates, providing that the signs are constructed and maintained in accordance with the provisions thereof. Every application for a sign projecting more than 2 feet from the building line, other than an electric sign, shall be subject to a permit only on the approval of the Board of Estimates. Electric signs that do not come within the provisions of this section may be the subject of a special ordinance by the Mayor and City Council.

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Applications for permits.

Signs and banners for advertising.

PAR. 7. Signs and banners desired for the advertising of public exhibitions, assemblages or meetings, or of candidates for office during political campaigns, or for other temporary purposes, may be suspended over streets or alleys or other public property for a period of not exceeding thirty days, and permits for such signs may be issued by the Inspector of Buildings at his discretion, subject to the later confirmation of his action by the Board of Estimates.

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Signs on roofs.

PAR. 8. Electric signs on roofs being within the property line are to be exempt from the provisions of this section in regard to regulations by the Board of Estimates, but are to be in every respect subject to the approval of the Inspector of Buildings as regards the safety of construction.

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- 1842** PAR. 9. No sign shall be placed on a roof of any structure except it be constructed of metal, and such construction shall be of open mesh work, and entirely approved in construction and fastenings by the Inspector of Buildings. Roof signs to be of metal.
- 1843** PAR. 10. No fence, wall or structure of any kind shall be erected for advertising in any way without a permit from the Inspector of Buildings. No such advertisement shall be above the height of twenty (20) feet above ground. Advertising fences, walls, etc.
- 1844** PAR. 11. No privy, chicken house or pigeon house shall be constructed within or attached to any other building. No manure pit shall be attached to any building other than a stable. No permit shall be issued for any construction named in this section without the same shall first be approved by the Commissioner of Health. Privy, well or chicken houses.
- 1845** PAR. 12. A fence, hedge or wall upon a property line shall be erected and maintained at the joint expense of the owners of the two adjoining properties. It may, however, be erected by either owner, in which case the other owner shall pay one-half the expense thereof, but not necessarily to exceed thirty cents per lineal foot of the fence, hedge or wall so constructed. Party fences, hedges, or walls.
- 1846** PAR. 13. No wood fence shall be constructed over 8 feet high, unless specially permitted by the Inspector of Buildings. Wood fences—height of.

FRAME BUILDINGS.**SECTION 55.****Foundation
footings.**

PAR. 1. The footings for foundation walls for frame buildings, built on the ground, shall be laid not less than 3 feet below the lowest surface of the ground. **1847**

Walls of.

PAR. 2. The walls shall be made of rubble stone, brick or concrete, and shall extend at least to the bottom of the sill. **1848**

**Stone founda-
tions; con-
crete; brick.**

PAR. 3. If the foundation walls are made of stone, they shall be not less than 18 inches thick at the bottom of the sill. If they are made of concrete, they shall be not less than 12 inches thick to the bottom of the sill. If they are made of brick, they shall be not less than 13 inches thick to the surface of the ground and 9 inches thick from the surface of the ground to the bottom of the sill. **1819**

**First story
walls.**

PAR. 4. If the first story wall is a brick wall, the foundation wall shall be 13 inches thick to the bottom of the first floor beams and 9 inches thick in the first story. If the first story wall is made of concrete, it shall be not less than 10 inches thick. If the first story wall is made of stone, it shall not be less than 18 inches thick. **1850**

Footings.

PAR. 5. All footings shall be not less than 8 inches thick and 6 inches wider than the walls. **1851**

**Brick and con-
crete walls.**

PAR. 6. Brick and concrete walls, faced with ashlar, shall be increased in thickness not less than 4 inches more than otherwise required in this section. **1852**

- 1853** PAR. 7. Recesses for stairways or shafts may be made in masonry walls, but no wall back of a recess shall be less than 9 inches thick, and no recess shall be more than 8 feet wide. Recesses for stairways and shafts.
- 1854** PAR. 8. The bottom of a sill in a frame building shall be not less than 2 feet above the ground, unless the first story is used for business purposes. Sills.
- 1855** PAR. 9. The construction may be made with a timber framing of posts, girts, plates, rafters, or it may be made the ordinary balloon framing. Character of framing.
- 1856** PAR. 10. In either case the floor joists and the studding and rafters shall not be less than 2 inches thick. Joists, studding and rafters.
- 1857** PAR. 11. In a frame building the roof shall be finished with incombustible materials. The dumb-waiter and other shafts may be constructed with wood walls, and the stairs may be arranged in any way and without especially constructed enclosure walls. Roofs; shafts and stairways.
- 1858** PAR. 12. Trimmer and header beams around openings in floors shall be increased in thickness sufficiently to carry the required loads; stirrup irons shall be used wherever desirable for strength, and joists shall be cross-bridged at intervals of not more than 8 feet. Trimmer and header beams; joists.
- 1859** PAR. 13. Joists carried on walls shall have at least 4 inches bearing on the wall and shall be properly anchored to the wall or sill. Bearings for joists.

Flues and
chimneys.

PAR. 14. No wood beams or joist shall be placed nearer to a flue or chimney breast than permitted in ordinary masonry buildings, as provided in Section 28 of this Article. **1860**

Notching for
pipes.

PAR. 15. Floor beams and joist shall not be notched for pipes, except within 2 feet of the ends, and not more than 2 inches in depth. **1861**

Filling of
wall space
at floors.

PAR. 16. The space between the studding or wall timbers in exterior and interior walls of every frame building which is sheathed, plastered or otherwise covered on both sides of the studding or other wall timbers, shall be filled in with brick and mortar or other suitable incombustible material wherever practicable, from the bottom of the joists to 6 inches above the top of the finished floor at each floor level. Such filling material shall extend entirely around the building and occupy the entire space between the two coverings. If necessary, horizontal wood pieces not less than 2 inches thick, shall be introduced between the joists or other wall timbers for the support of such filling. This work shall be done to the satisfaction of the Inspector of Buildings. **1862**

Requirements
for such
filling.

PAR. 16. The space between the studding or wall timbers in exterior and interior walls of every frame building which is sheathed, plastered or otherwise covered on both sides of the studding or other wall timbers, shall be filled in with brick and mortar or other suitable incombustible material wherever practicable, from the bottom of the joists to 6 inches above the top of the finished floor at each floor level. Such filling material shall extend entirely around the building and occupy the entire space between the two coverings. If necessary, horizontal wood pieces not less than 2 inches thick, shall be introduced between the joists or other wall timbers for the support of such filling. This work shall be done to the satisfaction of the Inspector of Buildings. **1863**

Buildings
veneered
with stone or
brick.

PAR. 17. The foundations of frame buildings covered with a veneer of brick, stone or other incombustible material, shall be placed so as to form a support for the entire thickness of such veneer. All such veneering material shall be anchored to the wood construction to the entire satisfaction of the Inspector of Buildings. **1864**

- 1865** PAR. 18. The character of materials required in the construction of frame buildings and their allowable stresses; the cellars, vaults, sidewalks, steps and areas of such buildings; their chimneys, flues, fireplaces, pipes, ducts and shafts; all heating appliances and gas outlets, and all the plumbing, gas fitting, drainage and electric work in such buildings shall conform to the requirements of this Article for such parts and features of the construction.
- General requirements relating to frame buildings.

NUMBERING HOUSES.

SECTION 56.

- 1866** PAR. 1. The number of every new building shall be determined and fixed by the Inspector of Buildings, and shall be reported by him to the owner or occupant thereof.
- Number fixed by Inspector.
- 1867** PAR. 2. The size and character of the figures and their position shall be determined by the Inspector of Buildings.
- Size, character, etc.
- 1868** PAR. 3. The owner or occupant shall place the number upon the building as soon as it is occupied. If any owner or occupant shall fail to place the number upon the building in accordance with the regulation of the Inspector of Buildings within ten days after receiving notice in relation thereto, or shall place a different number upon the building he shall be liable to a penalty of \$10.00 for each offense and to an additional penalty of \$5.00 for every day that such offense shall continue.
- Owner to number; penalty.
- 1869** PAR. 4. The number of every building already constructed shall remain unchanged, except that in case of publications or other
- Changes in numbering.

irregularities, the Inspector of Buildings may determine what changes, if any, shall be made, and if it is required to change the numbering in any respect the proceeding shall be the same as required in case of new buildings.

CONDITIONS TO BE MAINTAINED.

SECTION 57.

Roofs for observation.

PAR. 1. No roof shall be used by more than ten persons for observation, or for any other purpose for which numbers of persons may come together, unless a permit has first been obtained from the Inspector of Buildings therefor.

1870

Maximum floor loads, etc.

PAR. 2. After the maximum floor loads in warehouses and in buildings or parts of buildings, used for manufacturing purposes, have been determined, as provided in Section 19 of this Article, the notice relating thereto shall be maintained and no such floor shall be loaded to excess of the loads as so determined.

1871

Bath room and tub—when required in dwellings.

PAR. 3. No dwelling shall be erected, and no building shall be altered to be used as a dwelling house, having four or more rooms, exclusive of a bathroom, unless said dwelling house shall have therein a bath room and bath tub, with all necessary supply pipes, waste pipes and sanitary equipments, the provisions of this section to be enforced by the Inspector of Buildings.

1872

Hazardous merchandise in tenements, etc., forbidden.

PAR. 4. No merchandise or articles designated as especially hazardous in the classification of the National Board of Fire Under-

1873

writers shall be stored, handled or sold in any tenement, apartment house, lodging house or hotel, or in any public building, or in any part of a building any portion of which is used as a theatre.

- 1874** PAR. 5. No such merchandise or articles shall be stored, handled or sold in any warehouse or building used for manufacturing purposes, except it conforms to the requirements of Section 47 of this Article. Same as to manufacturing warehouses; proviso.
- 1875** PAR. 6. No frame building shall be occupied by more than six families. Frame buildings.
- 1876** PAR. 7. No frame building hereafter altered, erected or repaired to twenty-five per cent. of its value, shall be used as a hotel or lodging house. —use as hotels restricted.
- 1877** PAR. 8. All wooden buildings, the construction or the maintenance of which is in conformity with this Article, which are now or may hereafter be below the level of the pavements or streets, shall be raised up or underpinned with brick or stone when the courts which may be used as exits from any person not complying with the directions of the Commissioner of Health in the premises shall be liable to a penalty of not exceeding \$25.00 and a further penalty of \$5.00 for each day that neglect to comply with such direction continues; provided, that thirty days' notice to complete such work be given by the Commissioner of Health. Low wooden buildings; raising of; penalty.
- 1878** PAR. 9. No frame shed shall be used as a stable without the consent of the adjoining property owners, and all permits granted for the erection of frame sheds may be re- Frame sheds; use as stable prohibited.

voked, and the shed shall be removed within thirty days after notice from the Mayor. This paragraph not to conflict with any provisions in this Article relating to the erection of such sheds. The provisions of this paragraph to be enforced by the Inspector of Buildings.

Entrances of tenements, etc., lighting of. PAR. 10. The entrance of every tenement and apartment house shall be kept lighted all night every night in the year. 1879

Hallways of tenements, etc. PAR. 11. Every hallway in a tenement or apartment house shall be provided with a light on each floor until ten o'clock every night. 1880

Lighting of.

Bath rooms and water closets—same. PAR. 12. Every bathroom and water closet opening into a public hallway in a tenement shall be provided with light until ten o'clock every night. 1881

Obstruction of aisles or passageways. PAR. 13. No stool, chair, sofa or other seat or any other obstruction shall be placed in any aisle or passageway in any place of public assembly during a performance, service, exhibition, lecture, concert, ball or any other public assemblage. No person shall be allowed to stand or occupy a place in any such aisle or passageway during any such performance. No obstruction of any kind shall be placed in any exit way during any such performance. No exit door or gate shall be bolted or locked during the time that said building is open for entrance to or exit from said performance. No corridor, passageway or court which can be used as an entrance or exit to any public buildings shall be used for storage purposes or for hanging or otherwise —of exits. 1882 1883

caring for hats, coats and wraps, or for any other purposes, except for entrance to and exit from.

- 1884** PAR. 14. All corridors, passageways and courts which may be used as exits from any place of public assembly, shall be kept well lighted during every service, exhibition, lecture, concert, ball or other performance therein. Exits—lighting of.
- 1885** PAR. 15. The fire curtain in a theatre shall be raised at the commencement of each performance and lowered at its close. Fire curtains in theatres.
- 1886** PAR. 16. In fair weather the movable skylights over the stage shall be opened and closed once every day on which a performance is given. Movable skylights over stage.
- 1887** PAR. 17. The entire ventilation apparatus of every theatre shall be kept in perfect condition for use. Ventilation of theatres.
- 1888** PAR. 18. A diagram or plan of the ground floor and of each floor tier above the ground floor, showing the exits therefrom, shall be printed in black lines in a legible manner on the program of every performance in a theatre. Programs of theatres—to show diagram of exits.
- 1889** PAR. 19. All standpipes in theatres shall be kept free from obstruction. During performances standpipes and fixed connections thereto shall be kept filled with water under sufficient pressure to supply all lines of hose connecting thereto when operated simultaneously, and all pumps connected thereto shall be kept ready for immediate use. The hose shall be connected to the standpipes at all points where such connections are provided. Standpipes and fixed connections in theatres.

- Fire casks and brackets.** PAR. 20. The casks and buckets on the stage provided for the purpose shall be kept filled with water. **1890**
- Fire apparatus in theatres.** PAR. 21. The pumps, standpipes, hose and all apparatus for extinguishing fire or guarding against fire in a theatre, shall be under the supervision of the Fire Department, and in immediate charge of a fireman during every performance, at the expense of the owner of the theatre, or of the person or persons having the management thereof. **1891**
- Safety of public and employees in theatres.** PAR. 22. The owner of every theatre and the person or persons having the management thereof shall be severally responsible for the safety of the public and of the employees in the event of fire. **1892**
- Seats and chairs in theatres.** PAR. 23. Seats of all chairs in all theatres and places of public amusement must be provided with springs, so they will be in upright position when not occupied. **1893**
- Animals in dwellings.** PAR. 24. No horse, cow, sheep, goat or any other domestic animal, excepting a cat or dog, shall be lodged or housed in any building used as a habitation, except sleeping apartment may be provided in stables for the employees thereof. **1894**
- Sinks of public schools.** PAR. 25. It shall be the duty of the Inspector of Buildings to supervise the emptying and cleaning of the sinks attached to the public schools of the city. **1895**
- Other departments to aid Inspector.** PAR. 26. The Inspector of Buildings shall have the aid of all Sub-Departments of Public Safety in the execution of the provisions of this ordinance, except where otherwise provided. **1896**

1897 PAR. 27. Any person owning or managing a building, or any person representing an owner, or any occupant of a building who shall violate any of the requirements of this sub-division of this Article, shall be liable to a penalty of not less than \$50.00 nor more than \$200.00 for each and every offense, except where in a particular case a different penalty is prescribed herein.

Penalty for violating provisions of this sub-division.

1898 PAR. 28. Violations of any part or parts of this ordinance for which a penalty is not provided shall subject the violator to a fine of not less than \$10.00, the same to be collected as other fines.

General penalty clause.

ALARM GONGS IN HOTELS, APARTMENT HOUSES, TENEMENT HOUSES, LODGING HOUSES, ETC.

CHAPTER 180.

SECTION 58.

PAR. 1. To meet requirements of Chapter 180, Acts of the General Assembly of Maryland, approved March 27, 1906, which reads:

Act 1906, ch. 180.

PAR. 2. An act to provide for the safety of guests and occupants of hotels and apartment houses in the City of Baltimore.

Title of Act.

1899 PAR. 3. SECTION 1. Be it enacted by the General Assembly of Maryland, That any building or buildings now used as hotels or apartment houses, or that shall hereafter be used as such, shall have installed in said building or buildings large fire gongs, which

Fire gong to be installed.

- To be rung. shall be rung only in case of fire or danger of fire, so as to notify and warn the occupants thereof.
- Size of gongs and location. PAR. 4. SEC. 2. And be it further enacted, **1900**
That the gongs provided for in the preceding section shall be of such size as shall be designated by the Inspector of Buildings of Baltimore City, and shall be placed one at each stair landing and one at each end of every corridor and hall, and so put up, arranged and connected that each gong can be sounded from the main office.
- Penalty for violations of provisions of Act. PAR. 5. SEC. 3. And be it further enacted **1901**
That any owner, agent, lessee or manager of any building or buildings used or occupied as a hotel or apartment house that shall neglect or refuse to comply with the provisions of this Act shall be deemed guilty of a misdemeanor, and, upon indictment and conviction thereof, shall be fined not less than \$250.00 nor more than \$1,000.
- Proviso. PAR. 6. SEC. 4. And be it further enacted, **1902**
That the provisions of this Act shall not apply to buildings of twelve rooms or less.
- When effective. PAR. 7. SEC. 5. And be it enacted, That **1903**
this Act shall take effect as required by Chapter 180 of the Acts of the General Assembly of Maryland, as passed at the Legislative session of 1906.
- Main office, and custodian thereof. PAR. 8. All buildings or structures used **1904**
as hotels, apartment, tenement or lodging houses shall have a system of alarm gongs, as called for by this Act, and shall have a room known as the main office of said building or structure, approved by the Inspector

of Buildings, which office shall have a competent custodian at all hours of day and night in charge thereof.

- 1905** PAR. 9. The Inspector of Buildings is hereby authorized and directed to formulate such rules and regulations for the enforcement of this section as will, in his judgment, be most effective; said rules and regulations not to be in conflict with this ordinance, but are to embrace such systems, plans and sizes of gongs and equipment as will suit the various structures herein named.
- 1906** SEC. 60. And be it further ordained, That all ordinances or parts of ordinances inconsistent with the provisions of this ordinance be and the same are hereby repealed.
- 1907** SEC. 60. And be it further ordained, That this ordinance shall take effect on and after the date of its passage, and no advertising matter shall be allowed in connection with the printing of the Building Regulations.

Inspector to enforce provisions relating to such gongs.

Repugnant and inconsistent ordinances repealed.

When effective; proviso.

Approved June 19, 1908.

J. BARRY MAHOOL,
Mayor.

A true copy,

July 6, 1908.

J. SEWELL THOMAS,
City Register.

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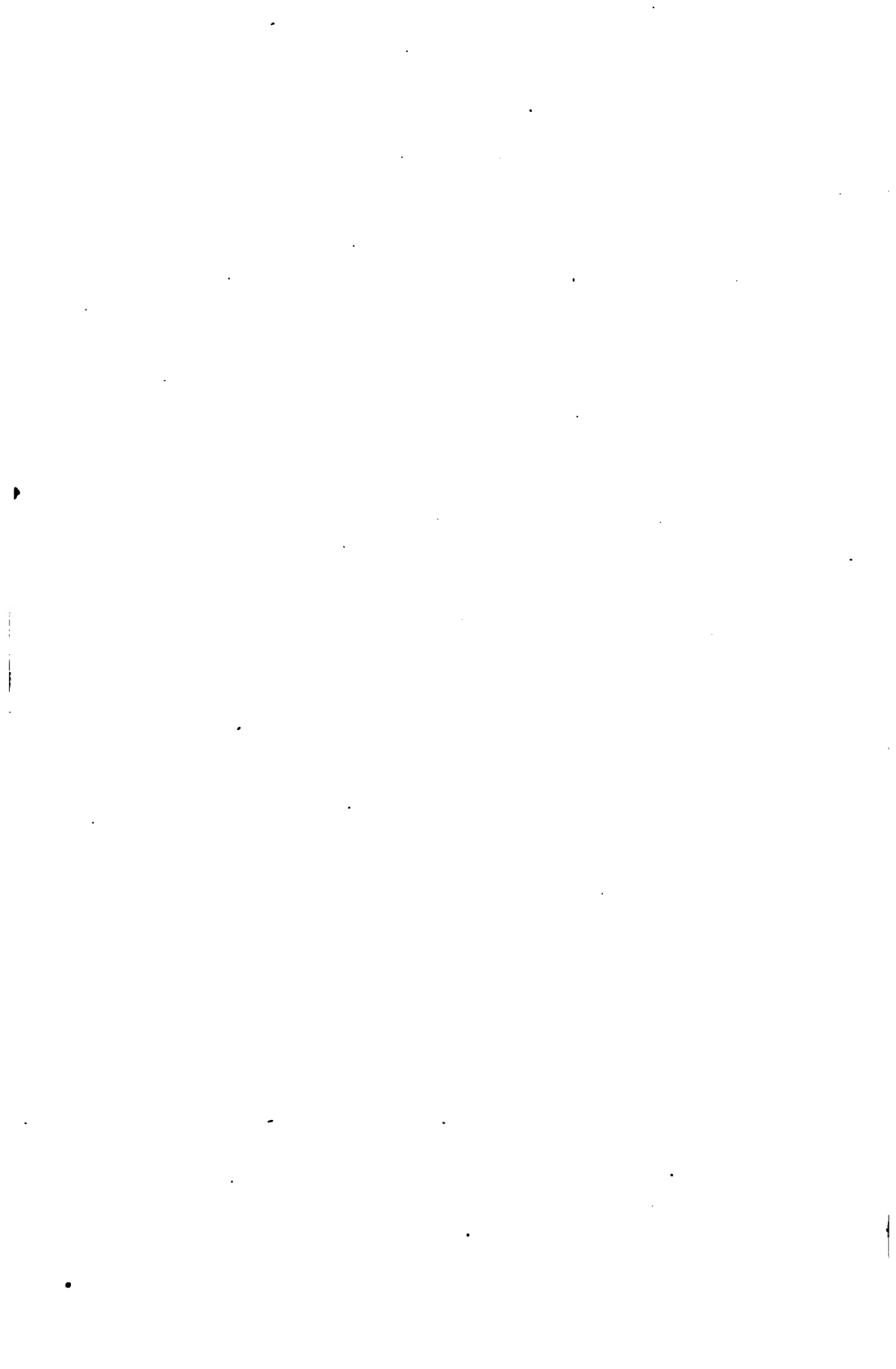
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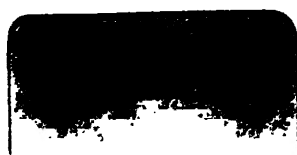
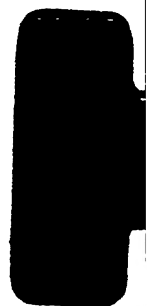
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